

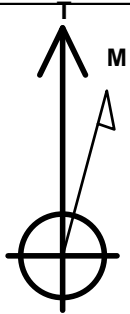
PETROLEUM DEVELOPMENT CORP Weld County CO

Well Name: **Tarin 32X-204**

Surface Location: Tarin 32X-HZ Pad Sec.32-T4N-R66W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4775.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1339646.21 3197253.55 40.263570 -104.793170
 RKB - 15' WELL @ 4790.0ft (RKB - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 973'FSL & 355'FEL, Sec.32	1.0	0.0	0.0	Point
BHL 1296'FSL & 2147'FEL, Sec.31	7064.0	281.5	-7088.6	Point



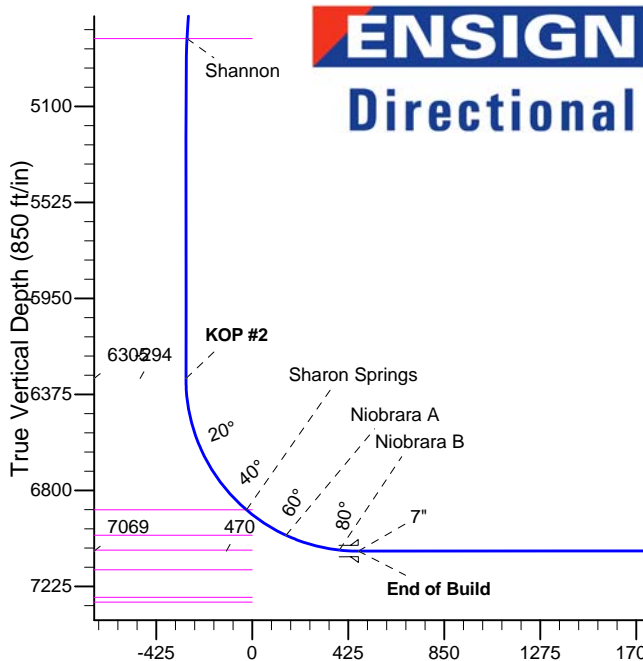
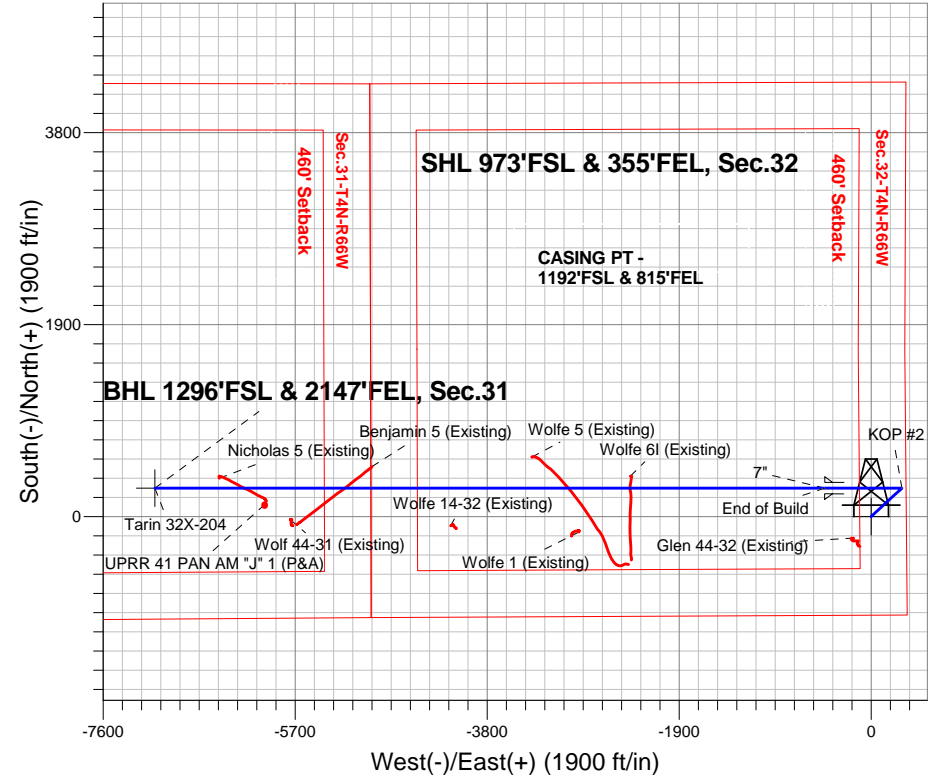
Azimuths to True North
 Magnetic North: 8.39°

Magnetic Field
 Strength: 52687.6nT
 Dip Angle: 66.81°
 Date: 12/18/2014
 Model: IGRF2010

Tarin 32X-HZ Pad Sec.32-T4N-R66W
 Tarin 32X-204
 Plan #2 (12-18-14)
 17:34, December 18 2014

ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP #1
6304.7	6327.4	KOP #2
7068.6	7527.9	End of Build



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1321.9	6.44	47.29	1321.3	12.3	13.3	2.00	47.29	-12.8	
4	4700.7	6.44	47.29	4678.7	269.2	291.7	0.00	0.00	-280.8	
5	5022.7	0.00	0.00	5000.0	281.5	305.0	2.00	180.00	-293.6	
6	6327.4	0.00	0.00	6304.7	281.5	305.0	0.00	0.00	-293.6	
7	7527.9	90.04	270.00	7068.6	281.5	-459.5	7.50	270.00	470.3	
8	14157.0	90.04	270.00	7064.0	281.5	-7088.6	0.00	0.00	7094.2	BHL 1296'FSL & 2147'FEL, Sec.31

BHL 1296'FSL & 2147'FEL, Sec.31

Vertical Section at 272.27° (850 ft/in)



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.32-T4N-R66W

Tarin 32X-HZ Pad Sec.32-T4N-R66W

Tarin 32X-204

Wellbore #1

Plan: Plan #2 (12-18-14)

Standard Planning Report

18 December, 2014

Database:	Landmark	Local Co-ordinate Reference:	Well Tarin 32X-204
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-18-14)		

Project	SEC.32-T4N-R66W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Tarin 32X-HZ Pad Sec.32-T4N-R66W		
Site Position:		Northing:	1,339,733.63 ft
From:	Lat/Long	Easting:	3,197,250.06 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.263810
		Longitude:	-104.793180
		Grid Convergence:	0.46 °

Well	Tarin 32X-204		
Well Position	+N/-S	-87.4 ft	Northing:
	+E/-W	2.8 ft	Easting:
Position Uncertainty		0.0 ft	Wellhead Elevation:
			ft
			Latitude:
			40.263570
			Longitude:
			-104.793170
			Ground Level:
			4,775.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/18/2014	8.40	66.81	52,688

Design	Plan #2 (12-18-14)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	272.27

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,321.9	6.44	47.29	1,321.3	12.3	13.3	2.00	2.00	0.00	47.29	
4,700.7	6.44	47.29	4,678.7	269.2	291.7	0.00	0.00	0.00	0.00	
5,022.7	0.00	0.00	5,000.0	281.5	305.0	2.00	-2.00	0.00	180.00	
6,327.4	0.00	0.00	6,304.7	281.5	305.0	0.00	0.00	0.00	0.00	
7,527.9	90.04	270.00	7,068.6	281.5	-459.5	7.50	7.50	0.00	270.00	
14,157.0	90.04	270.00	7,064.0	281.5	-7,088.6	0.00	0.00	0.00	0.00	BHL 1296'FSL & 21

Database:	Landmark	Local Co-ordinate Reference:	Well Tarin 32X-204
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-18-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 973'FSL & 355'FEL, Sec.32									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP #1									
1,100.0	2.00	47.29	1,100.0	1.2	1.3	-1.2	2.00	2.00	0.00
1,200.0	4.00	47.29	1,199.8	4.7	5.1	-4.9	2.00	2.00	0.00
1,300.0	6.00	47.29	1,299.5	10.6	11.5	-11.1	2.00	2.00	0.00
1,321.9	6.44	47.29	1,321.3	12.3	13.3	-12.8	2.00	2.00	0.00
1,400.0	6.44	47.29	1,398.8	18.2	19.7	-19.0	0.00	0.00	0.00
1,500.0	6.44	47.29	1,498.2	25.8	28.0	-26.9	0.00	0.00	0.00
1,600.0	6.44	47.29	1,597.6	33.4	36.2	-34.8	0.00	0.00	0.00
1,700.0	6.44	47.29	1,696.9	41.0	44.4	-42.8	0.00	0.00	0.00
1,800.0	6.44	47.29	1,796.3	48.6	52.7	-50.7	0.00	0.00	0.00
1,900.0	6.44	47.29	1,895.7	56.2	60.9	-58.6	0.00	0.00	0.00
2,000.0	6.44	47.29	1,995.0	63.8	69.2	-66.6	0.00	0.00	0.00
2,100.0	6.44	47.29	2,094.4	71.4	77.4	-74.5	0.00	0.00	0.00
2,200.0	6.44	47.29	2,193.8	79.0	85.6	-82.4	0.00	0.00	0.00
2,300.0	6.44	47.29	2,293.2	86.6	93.9	-90.4	0.00	0.00	0.00
2,400.0	6.44	47.29	2,392.5	94.3	102.1	-98.3	0.00	0.00	0.00
2,500.0	6.44	47.29	2,491.9	101.9	110.4	-106.2	0.00	0.00	0.00
2,600.0	6.44	47.29	2,591.3	109.5	118.6	-114.2	0.00	0.00	0.00
2,700.0	6.44	47.29	2,690.6	117.1	126.8	-122.1	0.00	0.00	0.00
2,800.0	6.44	47.29	2,790.0	124.7	135.1	-130.0	0.00	0.00	0.00
2,900.0	6.44	47.29	2,889.4	132.3	143.3	-138.0	0.00	0.00	0.00
3,000.0	6.44	47.29	2,988.7	139.9	151.6	-145.9	0.00	0.00	0.00
3,100.0	6.44	47.29	3,088.1	147.5	159.8	-153.8	0.00	0.00	0.00
3,200.0	6.44	47.29	3,187.5	155.1	168.0	-161.8	0.00	0.00	0.00
3,300.0	6.44	47.29	3,286.8	162.7	176.3	-169.7	0.00	0.00	0.00
3,400.0	6.44	47.29	3,386.2	170.3	184.5	-177.6	0.00	0.00	0.00
3,500.0	6.44	47.29	3,485.6	177.9	192.8	-185.6	0.00	0.00	0.00
3,600.0	6.44	47.29	3,585.0	185.5	201.0	-193.5	0.00	0.00	0.00
3,700.0	6.44	47.29	3,684.3	193.1	209.3	-201.4	0.00	0.00	0.00
3,725.8	6.44	47.29	3,710.0	195.1	211.4	-203.5	0.00	0.00	0.00
Parkman									
3,800.0	6.44	47.29	3,783.7	200.7	217.5	-209.4	0.00	0.00	0.00
3,900.0	6.44	47.29	3,883.1	208.3	225.7	-217.3	0.00	0.00	0.00
4,000.0	6.44	47.29	3,982.4	215.9	234.0	-225.2	0.00	0.00	0.00
4,100.0	6.44	47.29	4,081.8	223.6	242.2	-233.2	0.00	0.00	0.00
4,200.0	6.44	47.29	4,181.2	231.2	250.5	-241.1	0.00	0.00	0.00
4,300.0	6.44	47.29	4,280.5	238.8	258.7	-249.0	0.00	0.00	0.00
4,400.0	6.44	47.29	4,379.9	246.4	266.9	-257.0	0.00	0.00	0.00
4,410.2	6.44	47.29	4,390.0	247.1	267.8	-257.8	0.00	0.00	0.00
Sussex									

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Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-18-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.0	6.44	47.29	4,479.3	254.0	275.2	-264.9	0.00	0.00	0.00
4,600.0	6.44	47.29	4,578.6	261.6	283.4	-272.8	0.00	0.00	0.00
4,700.0	6.44	47.29	4,678.0	269.2	291.7	-280.7	0.00	0.00	0.00
4,700.7	6.44	47.29	4,678.7	269.2	291.7	-280.8	0.00	0.00	0.00
4,800.0	4.45	47.29	4,777.6	275.6	298.6	-287.5	2.00	-2.00	0.00
4,822.5	4.00	47.29	4,800.0	276.8	299.9	-288.6	2.00	-2.00	0.00
Shannon									
4,900.0	2.45	47.29	4,877.4	279.7	303.1	-291.7	2.00	-2.00	0.00
5,000.0	0.45	47.29	4,977.3	281.4	304.9	-293.5	2.00	-2.00	0.00
5,022.7	0.00	0.00	5,000.0	281.5	305.0	-293.6	2.00	-2.00	0.00
5,100.0	0.00	0.00	5,077.3	281.5	305.0	-293.6	0.00	0.00	0.00
5,200.0	0.00	0.00	5,177.3	281.5	305.0	-293.6	0.00	0.00	0.00
5,300.0	0.00	0.00	5,277.3	281.5	305.0	-293.6	0.00	0.00	0.00
5,400.0	0.00	0.00	5,377.3	281.5	305.0	-293.6	0.00	0.00	0.00
5,500.0	0.00	0.00	5,477.3	281.5	305.0	-293.6	0.00	0.00	0.00
5,600.0	0.00	0.00	5,577.3	281.5	305.0	-293.6	0.00	0.00	0.00
5,700.0	0.00	0.00	5,677.3	281.5	305.0	-293.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,777.3	281.5	305.0	-293.6	0.00	0.00	0.00
5,900.0	0.00	0.00	5,877.3	281.5	305.0	-293.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,977.3	281.5	305.0	-293.6	0.00	0.00	0.00
6,100.0	0.00	0.00	6,077.3	281.5	305.0	-293.6	0.00	0.00	0.00
6,200.0	0.00	0.00	6,177.3	281.5	305.0	-293.6	0.00	0.00	0.00
6,300.0	0.00	0.00	6,277.3	281.5	305.0	-293.6	0.00	0.00	0.00
6,327.4	0.00	0.00	6,304.7	281.5	305.0	-293.6	0.00	0.00	0.00
KOP #2									
6,400.0	5.45	270.00	6,377.2	281.5	301.5	-290.1	7.51	7.51	0.00
6,500.0	12.95	270.00	6,475.9	281.5	285.6	-274.2	7.50	7.50	0.00
6,600.0	20.45	270.00	6,571.6	281.5	256.9	-245.5	7.50	7.50	0.00
6,700.0	27.95	270.00	6,662.7	281.5	215.9	-204.6	7.50	7.50	0.00
6,800.0	35.45	270.00	6,747.8	281.5	163.4	-152.1	7.50	7.50	0.00
6,900.0	42.95	270.00	6,825.2	281.5	100.2	-89.0	7.50	7.50	0.00
6,988.0	49.55	270.00	6,886.0	281.5	36.7	-25.5	7.50	7.50	0.00
Sharon Springs									
7,000.0	50.45	270.00	6,893.7	281.5	27.5	-16.3	7.50	7.50	0.00
7,100.0	57.95	270.00	6,952.2	281.5	-53.5	64.7	7.50	7.50	0.00
7,196.3	65.17	270.00	6,998.0	281.5	-138.1	149.2	7.50	7.50	0.00
Niobrara A									
7,200.0	65.45	270.00	6,999.6	281.5	-141.5	152.6	7.50	7.50	0.00
7,300.0	72.95	270.00	7,035.0	281.5	-234.9	245.9	7.50	7.50	0.00
7,400.0	80.45	270.00	7,058.0	281.5	-332.2	343.1	7.50	7.50	0.00
7,443.2	83.69	270.00	7,064.0	281.5	-375.0	385.9	7.50	7.50	0.00
Niobrara B									
7,500.0	87.95	270.00	7,068.1	281.5	-431.6	442.4	7.50	7.50	0.00
7,527.9	90.04	270.00	7,068.6	281.5	-459.5	470.3	7.50	7.50	0.00
End of Build - 7"									
7,600.0	90.04	270.00	7,068.6	281.5	-531.6	542.3	0.00	0.00	0.00
7,700.0	90.04	270.00	7,068.5	281.5	-631.6	642.3	0.00	0.00	0.00
7,800.0	90.04	270.00	7,068.4	281.5	-731.6	742.2	0.00	0.00	0.00
7,900.0	90.04	270.00	7,068.4	281.5	-831.6	842.1	0.00	0.00	0.00
8,000.0	90.04	270.00	7,068.3	281.5	-931.6	942.0	0.00	0.00	0.00
8,100.0	90.04	270.00	7,068.2	281.5	-1,031.6	1,042.0	0.00	0.00	0.00
8,200.0	90.04	270.00	7,068.2	281.5	-1,131.6	1,141.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Tarin 32X-204
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-18-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,300.0	90.04	270.00	7,068.1	281.5	-1,231.6	1,241.8	0.00	0.00	0.00
8,400.0	90.04	270.00	7,068.0	281.5	-1,331.6	1,341.7	0.00	0.00	0.00
8,500.0	90.04	270.00	7,067.9	281.5	-1,431.6	1,441.6	0.00	0.00	0.00
8,600.0	90.04	270.00	7,067.9	281.5	-1,531.6	1,541.6	0.00	0.00	0.00
8,700.0	90.04	270.00	7,067.8	281.5	-1,631.6	1,641.5	0.00	0.00	0.00
8,800.0	90.04	270.00	7,067.7	281.5	-1,731.6	1,741.4	0.00	0.00	0.00
8,900.0	90.04	270.00	7,067.7	281.5	-1,831.6	1,841.3	0.00	0.00	0.00
9,000.0	90.04	270.00	7,067.6	281.5	-1,931.6	1,941.2	0.00	0.00	0.00
9,100.0	90.04	270.00	7,067.5	281.5	-2,031.6	2,041.2	0.00	0.00	0.00
9,200.0	90.04	270.00	7,067.5	281.5	-2,131.6	2,141.1	0.00	0.00	0.00
9,300.0	90.04	270.00	7,067.4	281.5	-2,231.6	2,241.0	0.00	0.00	0.00
9,400.0	90.04	270.00	7,067.3	281.5	-2,331.6	2,340.9	0.00	0.00	0.00
9,500.0	90.04	270.00	7,067.3	281.5	-2,431.6	2,440.8	0.00	0.00	0.00
9,600.0	90.04	270.00	7,067.2	281.5	-2,531.6	2,540.8	0.00	0.00	0.00
9,700.0	90.04	270.00	7,067.1	281.5	-2,631.6	2,640.7	0.00	0.00	0.00
9,800.0	90.04	270.00	7,067.0	281.5	-2,731.6	2,740.6	0.00	0.00	0.00
9,900.0	90.04	270.00	7,067.0	281.5	-2,831.6	2,840.5	0.00	0.00	0.00
10,000.0	90.04	270.00	7,066.9	281.5	-2,931.6	2,940.5	0.00	0.00	0.00
10,100.0	90.04	270.00	7,066.8	281.5	-3,031.6	3,040.4	0.00	0.00	0.00
10,200.0	90.04	270.00	7,066.8	281.5	-3,131.6	3,140.3	0.00	0.00	0.00
10,300.0	90.04	270.00	7,066.7	281.5	-3,231.6	3,240.2	0.00	0.00	0.00
10,400.0	90.04	270.00	7,066.6	281.5	-3,331.6	3,340.1	0.00	0.00	0.00
10,500.0	90.04	270.00	7,066.6	281.5	-3,431.6	3,440.1	0.00	0.00	0.00
10,600.0	90.04	270.00	7,066.5	281.5	-3,531.6	3,540.0	0.00	0.00	0.00
10,700.0	90.04	270.00	7,066.4	281.5	-3,631.6	3,639.9	0.00	0.00	0.00
10,800.0	90.04	270.00	7,066.3	281.5	-3,731.6	3,739.8	0.00	0.00	0.00
10,900.0	90.04	270.00	7,066.3	281.5	-3,831.6	3,839.7	0.00	0.00	0.00
11,000.0	90.04	270.00	7,066.2	281.5	-3,931.6	3,939.7	0.00	0.00	0.00
11,100.0	90.04	270.00	7,066.1	281.5	-4,031.6	4,039.6	0.00	0.00	0.00
11,200.0	90.04	270.00	7,066.1	281.5	-4,131.6	4,139.5	0.00	0.00	0.00
11,300.0	90.04	270.00	7,066.0	281.5	-4,231.6	4,239.4	0.00	0.00	0.00
11,400.0	90.04	270.00	7,065.9	281.5	-4,331.6	4,339.4	0.00	0.00	0.00
11,500.0	90.04	270.00	7,065.9	281.5	-4,431.6	4,439.3	0.00	0.00	0.00
11,600.0	90.04	270.00	7,065.8	281.5	-4,531.6	4,539.2	0.00	0.00	0.00
11,700.0	90.04	270.00	7,065.7	281.5	-4,631.6	4,639.1	0.00	0.00	0.00
11,800.0	90.04	270.00	7,065.6	281.5	-4,731.6	4,739.0	0.00	0.00	0.00
11,900.0	90.04	270.00	7,065.6	281.5	-4,831.6	4,839.0	0.00	0.00	0.00
12,000.0	90.04	270.00	7,065.5	281.5	-4,931.6	4,938.9	0.00	0.00	0.00
12,100.0	90.04	270.00	7,065.4	281.5	-5,031.6	5,038.8	0.00	0.00	0.00
12,200.0	90.04	270.00	7,065.4	281.5	-5,131.6	5,138.7	0.00	0.00	0.00
12,300.0	90.04	270.00	7,065.3	281.5	-5,231.6	5,238.6	0.00	0.00	0.00
12,400.0	90.04	270.00	7,065.2	281.5	-5,331.6	5,338.6	0.00	0.00	0.00
12,500.0	90.04	270.00	7,065.2	281.5	-5,431.6	5,438.5	0.00	0.00	0.00
12,600.0	90.04	270.00	7,065.1	281.5	-5,531.6	5,538.4	0.00	0.00	0.00
12,700.0	90.04	270.00	7,065.0	281.5	-5,631.6	5,638.3	0.00	0.00	0.00
12,800.0	90.04	270.00	7,064.9	281.5	-5,731.6	5,738.2	0.00	0.00	0.00
12,900.0	90.04	270.00	7,064.9	281.5	-5,831.6	5,838.2	0.00	0.00	0.00
13,000.0	90.04	270.00	7,064.8	281.5	-5,931.6	5,938.1	0.00	0.00	0.00
13,100.0	90.04	270.00	7,064.7	281.5	-6,031.6	6,038.0	0.00	0.00	0.00
13,200.0	90.04	270.00	7,064.7	281.5	-6,131.6	6,137.9	0.00	0.00	0.00
13,300.0	90.04	270.00	7,064.6	281.5	-6,231.6	6,237.9	0.00	0.00	0.00
13,400.0	90.04	270.00	7,064.5	281.5	-6,331.6	6,337.8	0.00	0.00	0.00
13,500.0	90.04	270.00	7,064.5	281.5	-6,431.6	6,437.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Tarin 32X-204
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-18-14)		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,600.0	90.04	270.00	7,064.4	281.5	-6,531.6	6,537.6	0.00	0.00	0.00
13,700.0	90.04	270.00	7,064.3	281.5	-6,631.6	6,637.5	0.00	0.00	0.00
13,800.0	90.04	270.00	7,064.2	281.5	-6,731.6	6,737.5	0.00	0.00	0.00
13,900.0	90.04	270.00	7,064.2	281.5	-6,831.6	6,837.4	0.00	0.00	0.00
14,000.0	90.04	270.00	7,064.1	281.5	-6,931.6	6,937.3	0.00	0.00	0.00
14,100.0	90.04	270.00	7,064.0	281.5	-7,031.6	7,037.2	0.00	0.00	0.00
14,157.0	90.04	270.00	7,064.0	281.5	-7,088.6	7,094.2	0.00	0.00	0.00
BHL 1296'FSL & 2147'FEL, Sec.31									

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
SHL 973'FSL & 355'F	0.00	0.00	1.0	0.0	0.0	1,339,646.22	3,197,253.55	40.263570	-104.793170
- plan hits target center									
- Point									
BHL 1296'FSL & 2147	0.00	0.00	7,064.0	281.5	-7,088.6	1,339,871.23	3,190,163.21	40.264340	-104.818570
- plan hits target center									
- Point									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,527.9	7,068.6	7"	7	7-1/2

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,725.8	3,710.0	Parkman		0.00	
4,410.2	4,390.0	Sussex		0.00	
4,822.5	4,800.0	Shannon		0.00	
6,988.0	6,886.0	Sharon Springs		0.00	
7,196.3	6,998.0	Niobrara A		0.00	
7,443.2	7,064.0	Niobrara B		0.00	
	7,151.0	Niobrara C		0.00	
	7,273.0	Ft Hays		0.00	
	7,295.0	Codell		0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Tarin 32X-204
Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Project:	SEC.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	North Reference:	True
Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (12-18-14)		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.0	1,000.0	0.0	0.0	KOP #1
6,327.4	6,304.7	281.5	305.0	KOP #2
7,527.9	7,068.6	281.5	-459.5	End of Build



PETROLEUM DEVELOPMENT CORP Weld County CO

SEC.32-T4N-R66W

Tarin 32X-HZ Pad Sec.32-T4N-R66W

Tarin 32X-204

Wellbore #1

Plan #2 (12-18-14)

Anticollision Report

18 December, 2014



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (12-18-14)
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.0ft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 1,000.0ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Survey Tool Program		Date	12/18/2014		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	14,157.0	Plan #2 (12-18-14) (Wellbore #1)	MWD	MWD - Standard	

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Existing Wells Sec.32-T4N-R66W						
Benjamin 5 (Existing) - Wellbore #1 - Wellbore #1	12,007.0	7,141.1	213.4	52.1	1.323	Level 3, CC, ES, SF
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	1,009.5	997.6	314.0	309.5	69.426	CC, ES
Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1	7,400.0	7,050.8	519.5	484.9	15.045	SF
Nicholas 5 (Existing) - Wellbore #1 - Wellbore #1	13,522.6	7,102.1	109.7	-91.1	0.546	Level 1, CC, ES, SF
UPRR 41 PAN AM "J" 1 (P&A) - Wellbore #1 - Wellbore	13,068.6	7,050.8	164.2	-148.8	0.525	Level 1, CC, ES, SF
Wolf 44-31 (Existing) - Wellbore #1 - Wellbore #1	12,814.0	7,053.7	311.4	132.4	1.739	CC, ES, SF
Wolfe 1 (Existing) - Wellbore #1 - Wellbore #1	9,961.5	7,044.7	429.7	330.3	4.322	CC, ES
Wolfe 1 (Existing) - Wellbore #1 - Wellbore #1	10,000.0	7,044.7	431.4	330.9	4.293	SF
Wolfe 14-32 (Existing) - Wellbore #1 - Wellbore #1	11,222.9	7,045.7	370.5	235.3	2.741	CC, ES, SF
Wolfe 5 (Existing) - Wellbore #1 - Wellbore #1	10,422.2	7,311.8	308.3	190.3	2.614	CC, ES, SF
Wolfe 6I (Existing) - Wellbore #1 - Wellbore #1	9,441.9	7,116.8	118.8	30.0	1.338	Level 3, CC, ES, SF
Tarin 32X-HZ Pad Sec.32-T4N-R66W						
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	200.0	199.0	87.5	86.8	130.153	CC, ES
Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)	5,100.0	5,001.6	878.8	844.6	25.673	SF
Tarin 32W-434 - Wellbore #1 - Plan #1 (12-18-14)	400.0	399.0	58.3	56.7	37.100	CC, ES
Tarin 32W-434 - Wellbore #1 - Plan #1 (12-18-14)	14,157.0	14,449.1	706.8	302.0	1.746	SF
Tarin 32X-304 - Wellbore #1 - Plan #3 (12-18-14)	1,000.0	1,000.0	32.8	28.5	7.678	CC
Tarin 32X-304 - Wellbore #1 - Plan #3 (12-18-14)	14,157.0	14,253.0	105.0	-162.9	0.392	Level 1, ES, SF
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	600.0	600.0	29.1	26.7	11.789	CC, ES
Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)	14,157.0	14,299.1	437.8	40.4	1.102	Level 2, SF
Tarin 32Y-214 - Wellbore #1 - Plan #3 (12-18-14)	1,000.0	1,000.0	61.9	57.7	14.504	CC, ES
Tarin 32Y-214 - Wellbore #1 - Plan #3 (12-18-14)	14,157.0	14,163.3	811.6	407.0	2.006	SF
Tarin 32Y-314 - Wellbore #1 - Plan #3 (12-18-14)	966.3	967.3	91.1	87.0	22.098	CC
Tarin 32Y-314 - Wellbore #1 - Plan #3 (12-18-14)	1,000.0	1,000.0	91.1	86.8	21.328	ES
Tarin 32Y-314 - Wellbore #1 - Plan #3 (12-18-14)	1,100.0	1,098.1	93.8	89.2	20.025	SF
Tarin 32Y-404 - Wellbore #1 - Plan #2 (7-15-14)	466.3	467.3	120.2	118.4	64.161	CC
Tarin 32Y-404 - Wellbore #1 - Plan #2 (7-15-14)	500.0	500.0	120.2	118.2	59.434	ES
Tarin 32Y-404 - Wellbore #1 - Plan #2 (7-15-14)	1,100.0	1,077.3	176.4	171.8	38.417	SF

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Benjamin 5 (Existing) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 464-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
11,100.0	7,066.1	7,139.2	7,049.7	117.2	19.5	89.51	494.9	-4,938.6	931.8	795.8	136.01	6.851		
11,200.0	7,066.1	7,139.4	7,049.9	119.9	19.5	89.57	494.9	-4,938.6	834.8	696.0	138.79	6.015		
11,300.0	7,066.0	7,139.6	7,050.1	122.7	19.5	89.62	494.9	-4,938.6	738.5	597.0	141.57	5.217		
11,400.0	7,065.9	7,139.8	7,050.3	125.5	19.5	89.67	494.9	-4,938.6	643.4	499.1	144.35	4.458		
11,500.0	7,065.9	7,140.0	7,050.5	128.3	19.5	89.73	494.9	-4,938.6	550.1	403.0	147.13	3.739		
11,600.0	7,065.8	7,140.2	7,050.7	131.1	19.5	89.78	494.9	-4,938.6	459.6	309.7	149.91	3.066		
11,700.0	7,065.7	7,140.4	7,050.9	133.8	19.5	89.84	494.9	-4,938.6	373.9	221.2	152.69	2.449		
11,800.0	7,065.6	7,140.6	7,051.1	136.6	19.5	89.89	494.9	-4,938.6	297.3	141.8	155.48	1.912		
11,900.0	7,065.6	7,140.8	7,051.3	139.4	19.5	89.95	494.9	-4,938.6	238.7	80.5	158.26	1.508		
12,000.0	7,065.5	7,141.1	7,051.5	142.2	19.5	90.01	494.9	-4,938.6	213.5	52.5	161.05	1.326	Level 3	
12,007.0	7,065.5	7,141.1	7,051.5	142.4	19.5	90.01	494.9	-4,938.6	213.4	52.1	161.24	1.323	Level 3, CC, ES, SF	
12,100.0	7,065.4	7,141.3	7,051.7	145.0	19.5	90.06	494.9	-4,938.6	232.8	68.9	163.83	1.421	Level 3	
12,200.0	7,065.4	7,141.5	7,052.0	147.8	19.5	90.12	494.9	-4,938.6	287.7	121.1	166.62	1.727		
12,300.0	7,065.3	7,141.7	7,052.2	150.6	19.5	90.18	494.9	-4,938.6	362.4	193.0	169.41	2.140		
12,400.0	7,065.2	7,141.9	7,052.4	153.4	19.5	90.24	494.9	-4,938.6	447.2	275.0	172.19	2.597		
12,500.0	7,065.2	7,142.2	7,052.6	156.1	19.5	90.30	494.9	-4,938.6	537.2	362.2	174.98	3.070		
12,600.0	7,065.1	7,142.4	7,052.8	158.9	19.5	90.36	494.9	-4,938.6	630.2	452.4	177.77	3.545		
12,700.0	7,065.0	7,142.6	7,053.1	161.7	19.5	90.42	494.9	-4,938.6	725.1	544.5	180.56	4.016		
12,800.0	7,064.9	7,142.8	7,053.3	164.5	19.5	90.49	494.9	-4,938.6	821.2	637.8	183.35	4.479		
12,900.0	7,064.9	7,143.1	7,053.5	167.3	19.5	90.55	494.9	-4,938.6	918.1	732.0	186.14	4.933		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-159.28	-159.28	-295.1	-111.6	315.8				
100.0	100.0	85.8	85.8	0.1	0.1	-159.20	-159.20	-295.1	-112.1	315.7	315.4	0.23	1,394.211	
200.0	200.0	184.6	184.6	0.3	0.4	-158.98	-158.98	-295.2	-113.4	316.2	315.5	0.69	455.944	
300.0	300.0	287.8	287.7	0.6	0.6	-158.76	-158.76	-295.1	-114.7	316.6	315.4	1.17	269.454	
400.0	400.0	388.3	388.3	0.8	0.9	-158.53	-158.53	-294.3	-115.7	316.2	314.6	1.65	192.012	
457.2	457.2	444.2	444.2	0.9	1.0	-158.39	-158.39	-293.9	-116.4	316.1	314.2	1.92	164.852	
500.0	500.0	485.8	485.8	1.0	1.1	-158.30	-158.30	-293.7	-116.9	316.2	314.0	2.12	149.106	
600.0	600.0	587.7	587.7	1.2	1.4	-158.05	-158.05	-293.4	-118.3	316.4	313.7	2.61	121.288	
700.0	700.0	690.3	690.3	1.5	1.6	-157.80	-157.80	-292.3	-119.3	315.7	312.7	3.06	103.018	
800.0	800.0	787.9	787.8	1.7	1.8	-157.66	-157.66	-291.4	-119.8	315.0	311.5	3.51	89.686	
900.0	900.0	889.3	889.2	1.9	2.1	-157.41	-157.41	-290.5	-120.8	314.6	310.6	4.00	78.713	
1,000.0	1,000.0	988.2	988.1	2.1	2.3	-157.18	-157.18	-289.4	-121.8	314.0	309.6	4.48	70.149	
1,009.5	1,009.5	997.6	997.5	2.2	2.4	-155.54	-155.54	-289.4	-121.9	314.0	309.5	4.52	69.426 CC, ES	
1,100.0	1,100.0	1,089.2	1,089.1	2.4	2.6	-155.79	-155.79	-288.7	-122.3	315.2	310.2	4.95	63.680	
1,200.0	1,199.8	1,188.7	1,188.6	2.6	2.8	-156.29	-156.29	-287.8	-122.9	319.3	313.9	5.41	59.018	
1,300.0	1,299.5	1,287.9	1,287.8	2.8	3.1	-157.04	-157.04	-286.9	-123.7	326.8	321.0	5.88	55.592	
1,400.0	1,398.8	1,388.9	1,388.8	3.0	3.4	-158.02	-158.02	-285.8	-124.7	336.5	330.2	6.37	52.869	
1,500.0	1,498.2	1,487.3	1,487.2	3.3	3.6	-159.00	-159.00	-284.3	-126.0	346.2	339.4	6.85	50.532	
1,600.0	1,597.6	1,586.7	1,586.6	3.6	3.9	-159.91	-159.91	-283.1	-127.2	356.2	348.8	7.34	48.506	
1,700.0	1,696.9	1,685.1	1,685.0	3.8	4.1	-160.78	-160.78	-281.9	-128.6	366.3	358.5	7.83	46.758	
1,800.0	1,796.3	1,784.2	1,784.0	4.1	4.4	-161.66	-161.66	-280.7	-130.3	376.7	368.4	8.33	45.233	
1,900.0	1,895.7	1,884.7	1,884.5	4.4	4.7	-162.50	-162.50	-279.4	-132.0	387.1	378.3	8.83	43.853	
2,000.0	1,995.0	1,983.7	1,983.5	4.7	4.9	-163.32	-163.32	-277.8	-133.8	397.4	388.1	9.32	42.625	
2,100.0	2,094.4	2,085.6	2,085.3	4.9	5.2	-164.16	-164.16	-275.9	-135.8	407.6	397.7	9.82	41.486	
2,200.0	2,193.8	2,187.0	2,186.7	5.2	5.5	-164.93	-164.93	-273.6	-137.2	417.2	406.9	10.31	40.448	
2,300.0	2,293.2	2,292.6	2,292.3	5.5	5.7	-165.54	-165.54	-270.9	-137.3	426.0	415.2	10.78	39.529	
2,400.0	2,392.5	2,392.1	2,391.7	5.8	5.9	-166.12	-166.12	-267.7	-137.1	434.0	422.8	11.22	38.681	
2,500.0	2,491.9	2,495.0	2,494.5	6.1	6.1	-166.75	-166.75	-263.8	-137.0	441.8	430.1	11.67	37.839	
2,600.0	2,591.3	2,592.9	2,592.3	6.4	6.3	-167.25	-167.25	-260.3	-136.3	449.3	437.2	12.11	37.102	
2,700.0	2,690.6	2,690.8	2,690.2	6.7	6.5	-167.73	-167.73	-257.2	-135.8	457.4	444.8	12.55	36.432	
2,800.0	2,790.0	2,791.6	2,791.0	7.0	6.8	-168.22	-168.22	-253.9	-135.4	465.5	452.5	13.01	35.776	
2,900.0	2,889.4	2,890.9	2,890.2	7.3	7.0	-168.67	-168.67	-250.7	-134.9	473.5	460.1	13.46	35.181	
3,000.0	2,988.7	2,993.1	2,992.3	7.6	7.2	-169.04	-169.04	-247.5	-133.7	481.4	467.5	13.90	34.629	
3,100.0	3,088.1	3,093.0	3,092.2	7.9	7.4	-169.31	-169.31	-244.6	-131.8	488.9	474.6	14.31	34.163	
3,200.0	3,187.5	3,188.1	3,187.2	8.2	7.5	-169.42	-169.42	-242.9	-129.2	496.9	482.3	14.67	33.871	
3,300.0	3,286.8	3,282.4	3,281.5	8.5	7.6	-169.52	-169.52	-242.0	-127.2	505.9	490.9	15.03	33.656	
3,400.0	3,386.2	3,376.0	3,375.1	8.8	7.8	-169.74	-169.74	-241.3	-126.7	516.0	500.6	15.45	33.401	
3,500.0	3,485.6	3,469.6	3,468.7	9.1	8.0	-170.06	-170.06	-240.8	-127.6	527.3	511.4	15.90	33.166	
3,600.0	3,585.0	3,562.0	3,561.1	9.4	8.2	-170.47	-170.47	-240.5	-130.0	539.6	523.3	16.33	33.047	
3,700.0	3,684.3	3,657.3	3,656.3	9.7	8.4	-170.94	-170.94	-240.7	-133.7	553.2	536.5	16.75	33.027	
3,800.0	3,783.7	3,753.9	3,752.8	10.0	8.6	-171.42	-171.42	-241.1	-137.7	567.2	550.0	17.17	33.029	
3,900.0	3,883.1	3,849.6	3,848.3	10.3	8.8	-171.97	-171.97	-241.2	-142.8	581.7	564.1	17.60	33.056	
4,000.0	3,982.4	3,947.2	3,945.8	10.6	9.0	-172.54	-172.54	-241.4	-148.6	596.7	578.7	18.03	33.098	
4,100.0	4,081.8	4,045.6	4,044.1	10.9	9.2	-173.01	-173.01	-242.1	-153.8	611.7	593.3	18.46	33.138	
4,200.0	4,181.2	4,145.4	4,143.7	11.2	9.4	-173.56	-173.56	-242.2	-159.9	626.9	608.0	18.90	33.166	
4,300.0	4,280.5	4,246.9	4,245.0	11.5	9.6	-174.11	-174.11	-241.8	-166.0	641.7	622.3	19.36	33.141	
4,400.0	4,379.9	4,348.2	4,346.1	11.8	9.8	-174.64	-174.64	-241.1	-171.9	656.2	636.4	19.83	33.096	
4,500.0	4,479.3	4,451.9	4,449.7	12.1	10.1	-175.16	-175.16	-240.0	-177.5	670.2	649.9	20.31	33.001	
4,600.0	4,578.6	4,558.6	4,556.2	12.4	10.4	-175.70	-175.70	-238.0	-182.8	683.4	662.6	20.81	32.842	
4,700.0	4,678.0	4,664.1	4,661.6	12.7	10.6	-176.20	-176.20	-235.0	-187.2	695.4	674.1	21.31	32.625	
4,800.0	4,777.6	4,770.8	4,768.1	12.9	10.9	-176.65	-176.65	-231.9	-190.6	705.0	683.1	21.84	32.285	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Glen 44-32 (Existing) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,900.0	4,877.4	4,872.6	4,869.9	13.1	11.2	177.07		-228.0	-193.5	710.2	687.9	22.29	31.862	
5,000.0	4,977.3	4,971.9	4,969.0	13.3	11.4	177.39		-224.8	-195.8	712.0	689.3	22.71	31.354	
5,100.0	5,077.3	5,071.2	5,068.4	13.4	11.7	-135.12		-222.7	-197.0	711.5	686.4	25.09	28.353	
5,200.0	5,177.3	5,178.4	5,175.5	13.6	11.9	-135.05		-221.3	-197.0	710.6	685.1	25.50	27.861	
5,300.0	5,277.3	5,274.9	5,272.0	13.8	12.1	-135.00		-219.9	-196.3	709.1	683.2	25.88	27.400	
5,400.0	5,377.3	5,379.3	5,376.4	14.0	12.3	-134.89		-218.1	-196.4	707.9	681.6	26.29	26.930	
5,500.0	5,477.3	5,479.8	5,476.9	14.2	12.5	-134.84		-216.3	-195.5	706.0	679.4	26.66	26.486	
5,600.0	5,577.3	5,583.6	5,580.7	14.4	12.7	-134.84		-214.8	-194.1	704.1	677.1	27.00	26.078	
5,700.0	5,677.3	5,676.4	5,673.4	14.6	12.8	-134.89		-214.0	-192.3	702.1	674.8	27.27	25.744	
5,800.0	5,777.3	5,777.9	5,774.9	14.7	12.8	-135.03		-214.3	-190.3	700.9	673.4	27.51	25.475	
5,900.0	5,877.3	5,871.8	5,868.7	14.9	12.9	-135.21		-215.1	-187.9	699.7	671.9	27.74	25.227	
5,963.7	5,941.0	5,931.0	5,928.0	15.0	12.9	-135.31		-215.8	-186.9	699.5	671.6	27.87	25.097	
6,000.0	5,977.3	5,965.7	5,962.6	15.1	12.9	-135.36		-216.2	-186.6	699.6	671.6	27.95	25.030	
6,100.0	6,077.3	6,070.1	6,067.1	15.3	12.9	-135.46		-217.2	-185.8	699.7	671.5	28.18	24.829	
6,181.3	6,158.7	6,148.6	6,145.6	15.5	13.0	-135.52		-217.5	-185.0	699.3	671.0	28.38	24.642	
6,200.0	6,177.3	6,165.4	6,162.4	15.5	13.0	-135.54		-217.6	-184.9	699.4	670.9	28.43	24.604	
6,300.0	6,277.3	6,259.6	6,256.5	15.7	13.0	-135.63		-219.0	-184.6	700.2	671.5	28.67	24.425	
6,400.0	6,377.2	6,359.8	6,356.7	15.9	13.1	-46.02		-220.7	-184.6	699.0	671.8	27.18	25.718	
6,500.0	6,475.9	6,465.2	6,462.1	15.9	13.1	-47.74		-222.3	-184.0	688.7	661.5	27.13	25.387	
6,600.0	6,571.6	6,570.3	6,567.2	16.0	13.2	-51.00		-223.0	-182.3	668.9	641.9	27.02	24.752	
6,700.0	6,662.7	6,671.1	6,668.0	16.0	13.3	-55.86		-222.0	-180.2	640.9	613.9	27.06	23.684	
6,800.0	6,747.8	6,761.2	6,758.0	16.0	13.5	-62.19		-220.0	-177.8	607.0	579.6	27.40	22.150	
6,900.0	6,825.2	6,836.3	6,833.1	16.0	13.6	-69.35		-217.5	-176.2	570.8	542.7	28.11	20.306	
7,000.0	6,893.7	6,900.0	6,896.7	16.1	13.8	-76.78		-215.6	-175.3	537.2	508.0	29.13	18.442	
7,100.0	6,952.2	6,952.1	6,948.8	16.7	13.9	-83.52		-214.5	-174.9	510.7	480.4	30.30	16.858	
7,200.0	6,999.6	6,995.3	6,992.0	17.6	14.0	-88.97		-213.9	-174.7	496.5	465.0	31.55	15.737	
7,238.0	7,014.5	7,009.4	7,006.1	18.1	14.0	-90.57		-213.7	-174.6	495.3	463.2	32.09	15.434	
7,300.0	7,035.0	7,029.1	7,025.8	18.9	14.0	-92.47		-213.6	-174.5	498.8	465.8	32.92	15.149	
7,400.0	7,058.0	7,050.8	7,047.5	20.5	14.1	-93.31		-213.4	-174.4	519.5	484.9	34.53	15.045 SF	
7,500.0	7,068.1	7,059.9	7,056.6	22.3	14.1	-91.23		-213.3	-174.3	557.7	521.4	36.35	15.343	
7,600.0	7,068.6	7,059.6	7,056.3	24.3	14.1	-90.05		-213.3	-174.3	610.3	572.0	38.30	15.934	
7,700.0	7,068.5	7,058.8	7,055.5	26.4	14.1	-89.96		-213.3	-174.3	673.8	633.3	40.42	16.669	
7,800.0	7,068.4	7,058.1	7,054.8	28.7	14.1	-89.88		-213.3	-174.4	745.2	702.6	42.65	17.472	
7,900.0	7,068.4	7,057.3	7,054.0	31.0	14.1	-89.79		-213.4	-174.4	822.7	777.7	44.98	18.289	
8,000.0	7,068.3	7,056.6	7,053.2	33.4	14.1	-89.70		-213.4	-174.4	904.6	857.2	47.38	19.091	
8,100.0	7,068.2	7,055.8	7,052.5	35.9	14.1	-89.62		-213.4	-174.4	989.8	940.0	49.84	19.858	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Nicholas 5 (Existing) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,600.0	7,065.1	7,100.0	7,050.0	158.9	16.4	90.81	391.2	-6,454.2	929.1	753.9	175.19	5.303	
12,700.0	7,065.0	7,100.0	7,050.0	161.7	16.4	90.81	391.2	-6,454.2	829.8	651.9	177.98	4.663	
12,800.0	7,064.9	7,100.3	7,050.3	164.5	16.4	90.97	391.2	-6,454.2	730.8	550.1	180.76	4.043	
12,900.0	7,064.9	7,100.6	7,050.6	167.3	16.4	91.11	391.2	-6,454.2	632.2	448.6	183.54	3.444	
13,000.0	7,064.8	7,100.8	7,050.8	170.1	16.4	91.25	391.2	-6,454.2	534.0	347.6	186.32	2.866	
13,100.0	7,064.7	7,101.1	7,051.1	172.9	16.4	91.39	391.2	-6,454.2	436.6	247.5	189.10	2.309	
13,200.0	7,064.7	7,101.4	7,051.4	175.7	16.4	91.52	391.2	-6,454.2	340.7	148.8	191.88	1.776	
13,300.0	7,064.6	7,101.6	7,051.6	178.5	16.4	91.64	391.2	-6,454.2	248.1	53.5	194.66	1.275 Level 3	
13,400.0	7,064.5	7,101.8	7,051.8	181.3	16.4	91.76	391.2	-6,454.2	164.5	-33.0	197.44	0.833 Level 1	
13,500.0	7,064.5	7,102.0	7,052.0	184.1	16.4	91.88	391.2	-6,454.2	112.0	-88.2	200.22	0.559 Level 1	
13,522.6	7,064.4	7,102.1	7,052.1	184.7	16.4	91.91	391.2	-6,454.2	109.7	-91.1	200.84	0.546 Level 1, CC, ES, SF	
13,600.0	7,064.4	7,102.3	7,052.3	186.9	16.4	91.99	391.2	-6,454.2	134.3	-68.7	202.99	0.661 Level 1	
13,700.0	7,064.3	7,102.5	7,052.5	189.7	16.4	92.10	391.2	-6,454.2	208.6	2.8	205.77	1.014 Level 2	
13,800.0	7,064.2	7,102.7	7,052.7	192.5	16.4	92.20	391.2	-6,454.2	298.3	89.8	208.55	1.431 Level 3	
13,900.0	7,064.2	7,100.0	7,050.0	195.3	16.4	90.81	391.2	-6,454.2	393.1	181.6	211.51	1.858	
14,000.0	7,064.1	7,100.0	7,050.0	198.1	16.4	90.81	391.2	-6,454.2	489.9	275.6	214.31	2.286	
14,100.0	7,064.0	7,100.0	7,050.0	200.9	16.4	90.81	391.2	-6,454.2	587.8	370.7	217.10	2.707	
14,157.0	7,064.0	7,100.0	7,050.0	202.5	16.4	90.81	391.2	-6,454.2	643.9	425.2	218.70	2.944	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - UPRR 41 PAN AM "J" 1 (P&A) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7970-UNKNOWN												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
12,100.0	7,065.4	7,051.4	7,051.4	145.0	141.0	-90.24	117.3	-6,000.3	982.5	696.5	286.00	3.435	
12,200.0	7,065.4	7,051.4	7,051.4	147.8	141.0	-90.21	117.3	-6,000.3	884.1	595.3	288.78	3.061	
12,300.0	7,065.3	7,051.3	7,051.3	150.6	141.0	-90.19	117.3	-6,000.3	786.0	494.4	291.57	2.696	
12,400.0	7,065.2	7,051.2	7,051.2	153.4	141.0	-90.16	117.3	-6,000.3	688.5	394.2	294.36	2.339	
12,500.0	7,065.2	7,051.2	7,051.2	156.1	141.0	-90.14	117.3	-6,000.3	591.9	294.8	297.15	1.992	
12,600.0	7,065.1	7,051.1	7,051.1	158.9	141.0	-90.11	117.3	-6,000.3	496.6	196.7	299.94	1.656	
12,700.0	7,065.0	7,051.0	7,051.0	161.7	141.0	-90.09	117.3	-6,000.3	403.6	100.9	302.73	1.333	Level 3
12,800.0	7,064.9	7,050.9	7,050.9	164.5	141.0	-90.07	117.3	-6,000.3	314.9	9.4	305.52	1.031	Level 2
12,900.0	7,064.9	7,050.9	7,050.9	167.3	141.0	-90.04	117.3	-6,000.3	235.4	-72.9	308.31	0.764	Level 1
13,000.0	7,064.8	7,050.8	7,050.8	170.1	141.0	-90.02	117.3	-6,000.3	178.0	-133.1	311.10	0.572	Level 1
13,068.6	7,064.8	7,050.8	7,050.8	172.0	141.0	-90.00	117.3	-6,000.3	164.2	-148.8	313.02	0.525	Level 1, CC, ES, SF
13,100.0	7,064.7	7,050.7	7,050.7	172.9	141.0	-89.99	117.3	-6,000.3	167.2	-146.7	313.90	0.533	Level 1
13,200.0	7,064.7	7,050.7	7,050.7	175.7	141.0	-89.97	117.3	-6,000.3	210.3	-106.4	316.69	0.664	Level 1
13,300.0	7,064.6	7,050.6	7,050.6	178.5	141.0	-89.94	117.3	-6,000.3	283.7	-35.8	319.48	0.888	Level 1
13,400.0	7,064.5	7,050.5	7,050.5	181.3	141.0	-89.92	117.3	-6,000.3	369.8	47.5	322.27	1.147	Level 2
13,500.0	7,064.5	7,050.5	7,050.5	184.1	141.0	-89.89	117.3	-6,000.3	461.5	136.5	325.07	1.420	Level 3
13,600.0	7,064.4	7,050.4	7,050.4	186.9	141.0	-89.87	117.3	-6,000.3	556.1	228.3	327.86	1.696	
13,700.0	7,064.3	7,050.3	7,050.3	189.7	141.0	-89.85	117.3	-6,000.3	652.3	321.7	330.66	1.973	
13,800.0	7,064.2	7,050.2	7,050.2	192.5	141.0	-89.82	117.3	-6,000.3	749.5	416.1	333.45	2.248	
13,900.0	7,064.2	7,050.2	7,050.2	195.3	141.0	-89.80	117.3	-6,000.3	847.4	511.1	336.24	2.520	
14,000.0	7,064.1	7,050.1	7,050.1	198.1	141.0	-89.77	117.3	-6,000.3	945.7	606.7	339.04	2.789	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells Sec.32-T4N-R66W - Wolf 44-31 (Existing) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.0 ft		
Survey Program: 100-NS-GYRO-MS														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
11,900.0	7,065.6	7,047.4	7,046.2	139.4	14.2	-89.32	-30.0	-5,745.5	965.6	812.1	153.51	6.290	1.739 CC, ES, SF				
12,000.0	7,065.5	7,048.1	7,046.9	142.2	14.2	-89.45	-29.9	-5,745.6	871.5	715.2	156.31	5.576					
12,100.0	7,065.4	7,048.8	7,047.6	145.0	14.2	-89.58	-29.9	-5,745.6	779.0	619.9	159.10	4.896					
12,200.0	7,065.4	7,049.5	7,048.3	147.8	14.2	-89.70	-29.9	-5,745.6	688.5	526.6	161.90	4.253					
12,300.0	7,065.3	7,050.2	7,049.0	150.6	14.2	-89.83	-29.9	-5,745.6	601.0	436.3	164.69	3.649					
12,400.0	7,065.2	7,050.9	7,049.7	153.4	14.2	-89.96	-29.9	-5,745.6	518.1	350.6	167.49	3.093					
12,500.0	7,065.2	7,051.6	7,050.4	156.1	14.2	-90.08	-29.9	-5,745.6	442.3	272.0	170.28	2.597					
12,600.0	7,065.1	7,052.2	7,051.0	158.9	14.2	-90.20	-29.9	-5,745.6	377.9	204.8	173.07	2.183					
12,700.0	7,065.0	7,052.9	7,051.7	161.7	14.2	-90.33	-29.9	-5,745.6	331.6	155.8	175.87	1.886					
12,800.0	7,064.9	7,053.6	7,052.4	164.5	14.2	-90.45	-29.9	-5,745.6	311.8	133.1	178.66	1.745					
12,814.0	7,064.9	7,053.7	7,052.5	164.9	14.2	-90.46	-29.9	-5,745.6	311.4	132.4	179.05						
12,900.0	7,064.9	7,054.2	7,053.0	167.3	14.2	-90.57	-29.9	-5,745.6	323.1	141.6	181.46	1.781					
13,000.0	7,064.8	7,054.9	7,053.7	170.1	14.2	-90.68	-29.9	-5,745.6	362.8	178.5	184.25	1.969					
13,100.0	7,064.7	7,055.5	7,054.3	172.9	14.2	-90.80	-29.9	-5,745.6	422.8	235.8	187.04	2.261					
13,200.0	7,064.7	7,056.1	7,054.9	175.7	14.2	-90.92	-29.9	-5,745.6	496.0	306.1	189.83	2.613					
13,300.0	7,064.6	7,056.8	7,055.6	178.5	14.2	-91.03	-29.9	-5,745.6	577.2	384.6	192.63	2.997					
13,400.0	7,064.5	7,057.4	7,056.2	181.3	14.2	-91.15	-29.9	-5,745.6	663.6	468.2	195.42	3.396					
13,500.0	7,064.5	7,058.0	7,056.8	184.1	14.2	-91.26	-29.9	-5,745.6	753.4	555.2	198.21	3.801					
13,600.0	7,064.4	7,058.6	7,057.4	186.9	14.2	-91.37	-29.9	-5,745.6	845.4	644.4	201.00	4.206					
13,700.0	7,064.3	7,059.2	7,058.0	189.7	14.2	-91.48	-29.9	-5,745.6	939.1	735.3	203.79	4.608					

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Wolfe 1 (Existing) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
9,100.0	7,067.5	7,046.1	7,044.8	62.1	13.8	-89.59	-148.2	-2,893.0	962.7	886.8	75.89	12.686	
9,200.0	7,067.5	7,045.9	7,044.7	64.8	13.8	-89.57	-148.2	-2,893.0	874.3	795.7	78.60	11.124	
9,300.0	7,067.4	7,045.8	7,044.5	67.5	13.8	-89.55	-148.2	-2,893.0	788.8	707.5	81.31	9.700	
9,400.0	7,067.3	7,045.6	7,044.4	70.3	13.8	-89.53	-148.1	-2,893.0	707.0	623.0	84.04	8.413	
9,500.0	7,067.3	7,045.5	7,044.2	73.0	13.8	-89.51	-148.1	-2,893.0	630.5	543.8	86.77	7.267	
9,600.0	7,067.2	7,045.3	7,044.1	75.7	13.8	-89.49	-148.1	-2,893.0	561.5	472.0	89.50	6.274	
9,700.0	7,067.1	7,045.2	7,043.9	78.5	13.8	-89.46	-148.1	-2,893.0	503.0	410.7	92.24	5.453	
9,800.0	7,067.0	7,045.0	7,043.8	81.2	13.8	-89.44	-148.1	-2,893.0	459.0	364.0	94.99	4.832	
9,900.0	7,067.0	7,044.8	7,043.6	84.0	13.8	-89.42	-148.1	-2,893.0	434.1	336.3	97.74	4.441	
9,961.5	7,066.9	7,044.7	7,043.5	85.6	13.8	-89.41	-148.1	-2,893.0	429.7	330.3	99.43	4.322 CC, ES	
10,000.0	7,066.9	7,044.7	7,043.4	86.7	13.8	-89.40	-148.1	-2,893.0	431.4	330.9	100.49	4.293 SF	
10,100.0	7,066.8	7,044.5	7,043.3	89.5	13.8	-89.38	-148.1	-2,893.0	451.5	348.2	103.24	4.373	
10,200.0	7,066.8	7,044.3	7,043.1	92.2	13.8	-89.35	-148.1	-2,893.0	491.5	385.5	106.00	4.636	
10,300.0	7,066.7	7,044.2	7,042.9	95.0	13.8	-89.33	-148.1	-2,893.0	547.0	438.3	108.76	5.029	
10,400.0	7,066.6	7,044.0	7,042.8	97.7	13.8	-89.31	-148.1	-2,893.0	614.0	502.4	111.53	5.505	
10,500.0	7,066.6	7,043.8	7,042.6	100.5	13.8	-89.29	-148.1	-2,893.0	689.0	574.7	114.29	6.028	
10,600.0	7,066.5	7,043.6	7,042.4	103.3	13.8	-89.26	-148.1	-2,893.0	769.7	652.6	117.06	6.575	
10,700.0	7,066.4	7,043.5	7,042.2	106.1	13.8	-89.24	-148.1	-2,893.0	854.4	734.6	119.83	7.130	
10,800.0	7,066.3	7,043.3	7,042.0	108.8	13.8	-89.22	-148.1	-2,893.0	942.2	819.6	122.60	7.685	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Wolfe 14-32 (Existing) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
10,300.0	7,066.7	7,033.9	7,033.2	95.0	14.6	-87.70	-88.9	-4,154.4	994.4	885.0	109.45	9.086	
10,400.0	7,066.6	7,035.2	7,034.4	97.7	14.6	-87.90	-88.9	-4,154.4	902.4	790.2	112.23	8.041	
10,500.0	7,066.6	7,036.5	7,035.7	100.5	14.6	-88.09	-88.9	-4,154.4	812.3	697.3	115.01	7.062	
10,600.0	7,066.5	7,037.8	7,037.0	103.3	14.6	-88.29	-88.9	-4,154.4	724.7	606.9	117.80	6.152	
10,700.0	7,066.4	7,039.0	7,038.2	106.1	14.6	-88.48	-88.9	-4,154.4	640.8	520.3	120.59	5.314	
10,800.0	7,066.3	7,040.3	7,039.5	108.8	14.6	-88.68	-88.9	-4,154.4	562.2	438.9	123.37	4.557	
10,900.0	7,066.3	7,041.6	7,040.8	111.6	14.6	-88.88	-88.9	-4,154.5	491.5	365.3	126.16	3.895	
11,000.0	7,066.2	7,042.8	7,042.1	114.4	14.6	-89.07	-88.9	-4,154.5	432.4	303.4	128.95	3.353	
11,100.0	7,066.1	7,044.1	7,043.3	117.2	14.6	-89.27	-88.9	-4,154.5	390.4	258.6	131.74	2.963	
11,200.0	7,066.1	7,045.4	7,044.6	119.9	14.6	-89.47	-89.0	-4,154.5	371.2	236.7	134.53	2.759	
11,222.9	7,066.0	7,045.7	7,044.9	120.6	14.6	-89.51	-89.0	-4,154.5	370.5	235.3	135.17	2.741 CC, ES, SF	
11,300.0	7,066.0	7,046.6	7,045.9	122.7	14.6	-89.66	-89.0	-4,154.5	378.4	241.1	137.32	2.756	
11,400.0	7,065.9	7,047.9	7,047.1	125.5	14.6	-89.86	-89.0	-4,154.5	410.6	270.5	140.11	2.931	
11,500.0	7,065.9	7,049.2	7,048.4	128.3	14.7	-90.06	-89.0	-4,154.6	462.6	319.7	142.90	3.237	
11,600.0	7,065.8	7,050.5	7,049.7	131.1	14.7	-90.25	-89.0	-4,154.6	528.6	382.9	145.69	3.628	
11,700.0	7,065.7	7,051.7	7,050.9	133.8	14.7	-90.45	-89.0	-4,154.6	604.0	455.5	148.48	4.068	
11,800.0	7,065.6	7,053.0	7,052.2	136.6	14.7	-90.64	-89.0	-4,154.6	685.7	534.5	151.26	4.533	
11,900.0	7,065.6	7,054.3	7,053.5	139.4	14.7	-90.84	-89.0	-4,154.6	771.8	617.7	154.05	5.010	
12,000.0	7,065.5	7,055.5	7,054.8	142.2	14.7	-91.04	-89.0	-4,154.6	860.8	704.0	156.84	5.489	
12,100.0	7,065.4	7,056.8	7,056.0	145.0	14.7	-91.23	-89.1	-4,154.7	952.1	792.4	159.62	5.965	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Existing Wells Sec.32-T4N-R66W - Wolfe 5 (Existing) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 100-NS-GYRO-MS												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,500.0	7,067.3	7,298.1	7,036.4	73.0	21.5	87.73	589.9	-3,353.5	972.2	879.6	92.61	10.499	
9,600.0	7,067.2	7,299.6	7,037.9	75.7	21.5	88.01	589.9	-3,353.6	878.0	782.6	95.35	9.208	
9,700.0	7,067.1	7,301.1	7,039.4	78.5	21.5	88.29	589.9	-3,353.6	785.1	687.1	98.09	8.005	
9,800.0	7,067.0	7,302.6	7,040.9	81.2	21.5	88.57	589.8	-3,353.6	694.3	593.5	100.83	6.886	
9,900.0	7,067.0	7,304.1	7,042.4	84.0	21.5	88.85	589.8	-3,353.6	606.3	502.8	103.58	5.854	
10,000.0	7,066.9	7,305.6	7,043.9	86.7	21.5	89.13	589.8	-3,353.7	522.7	416.4	106.33	4.916	
10,100.0	7,066.8	7,307.1	7,045.4	89.5	21.5	89.41	589.8	-3,353.7	445.9	336.8	109.08	4.088	
10,200.0	7,066.8	7,308.6	7,046.9	92.2	21.5	89.68	589.8	-3,353.7	380.0	268.2	111.83	3.398	
10,300.0	7,066.7	7,310.0	7,048.4	95.0	21.5	89.96	589.8	-3,353.7	331.6	217.0	114.59	2.894	
10,400.0	7,066.6	7,311.5	7,049.8	97.7	21.5	90.23	589.8	-3,353.8	309.1	191.7	117.34	2.634	
10,422.2	7,066.6	7,311.8	7,050.2	98.4	21.5	90.29	589.8	-3,353.8	308.3	190.3	117.95	2.614 CC, ES, SF	
10,500.0	7,066.6	7,313.0	7,051.3	100.5	21.5	90.50	589.8	-3,353.8	318.0	197.9	120.09	2.648	
10,600.0	7,066.5	7,314.4	7,052.7	103.3	21.5	90.77	589.8	-3,353.8	355.9	233.0	122.84	2.897	
10,700.0	7,066.4	7,315.8	7,054.2	106.1	21.5	91.03	589.8	-3,353.8	415.0	289.4	125.60	3.304	
10,800.0	7,066.3	7,317.3	7,055.6	108.8	21.5	91.30	589.8	-3,353.8	487.6	359.3	128.35	3.799	
10,900.0	7,066.3	7,318.7	7,057.0	111.6	21.5	91.56	589.8	-3,353.9	568.6	437.5	131.09	4.337	
11,000.0	7,066.2	7,320.1	7,058.4	114.4	21.6	91.83	589.8	-3,353.9	654.9	521.0	133.84	4.893	
11,100.0	7,066.1	7,321.5	7,059.8	117.2	21.6	92.09	589.8	-3,353.9	744.6	608.0	136.59	5.451	
11,200.0	7,066.1	7,322.9	7,061.2	119.9	21.6	92.35	589.7	-3,353.9	836.6	697.3	139.33	6.005	
11,300.0	7,066.0	7,324.3	7,062.6	122.7	21.6	92.60	589.7	-3,353.9	930.3	788.2	142.07	6.548	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design		Existing Wells Sec.32-T4N-R66W - Wolfe 6I (Existing) - Wellbore #1 - Wellbore #1											Offset Site Error:	0.0 ft
Survey Program: 668-NS-GYRO-MS													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
8,500.0	7,067.9	7,098.5	7,030.3	46.1	18.6	80.91	400.2	-2,373.2	949.2	886.1	63.16	15.028		
8,600.0	7,067.9	7,100.4	7,032.2	48.7	18.7	81.80	400.2	-2,373.2	850.1	784.3	65.86	12.908		
8,700.0	7,067.8	7,102.3	7,034.1	51.4	18.7	82.70	400.2	-2,373.2	751.3	682.7	68.57	10.955		
8,800.0	7,067.7	7,104.2	7,036.0	54.0	18.7	83.62	400.2	-2,373.3	652.7	581.4	71.30	9.155		
8,900.0	7,067.7	7,106.2	7,037.9	56.7	18.7	84.54	400.3	-2,373.3	554.7	480.7	74.03	7.493		
9,000.0	7,067.6	7,108.1	7,039.9	59.4	18.7	85.47	400.3	-2,373.4	457.6	380.8	76.76	5.961		
9,100.0	7,067.5	7,110.1	7,041.8	62.1	18.7	86.41	400.3	-2,373.4	361.9	282.4	79.49	4.553		
9,200.0	7,067.5	7,112.0	7,043.8	64.8	18.7	87.36	400.3	-2,373.4	269.5	187.3	82.22	3.278		
9,300.0	7,067.4	7,114.0	7,045.8	67.5	18.7	88.31	400.3	-2,373.5	185.1	100.1	84.94	2.179		
9,400.0	7,067.3	7,116.0	7,047.8	70.3	18.7	89.27	400.3	-2,373.5	126.0	38.4	87.64	1.438 Level 3		
9,441.9	7,067.3	7,116.8	7,048.6	71.4	18.7	89.68	400.3	-2,373.5	118.8	30.0	88.77	1.338 Level 3, CC, ES, SF		
9,500.0	7,067.3	7,118.0	7,049.8	73.0	18.7	90.24	400.3	-2,373.6	132.2	41.9	90.33	1.464 Level 3		
9,600.0	7,067.2	7,120.0	7,051.8	75.7	18.7	91.21	400.3	-2,373.6	197.7	104.7	93.00	2.126		
9,700.0	7,067.1	7,122.1	7,053.8	78.5	18.7	92.19	400.4	-2,373.6	284.0	188.4	95.65	2.970		
9,800.0	7,067.0	7,124.1	7,055.9	81.2	18.7	93.17	400.4	-2,373.7	377.2	278.9	98.27	3.838		
9,900.0	7,067.0	7,126.2	7,057.9	84.0	18.7	94.16	400.4	-2,373.7	473.1	372.3	100.87	4.691		
10,000.0	7,066.9	7,128.2	7,060.0	86.7	18.7	95.15	400.4	-2,373.8	570.5	467.0	103.43	5.515		
10,100.0	7,066.8	7,130.3	7,062.1	89.5	18.7	96.15	400.4	-2,373.8	668.6	562.6	105.96	6.310		
10,200.0	7,066.8	7,132.4	7,064.2	92.2	18.7	97.15	400.4	-2,373.9	767.2	658.7	108.45	7.074		
10,300.0	7,066.7	7,134.5	7,066.3	95.0	18.7	98.14	400.4	-2,373.9	866.1	755.2	110.90	7.809		
10,400.0	7,066.6	7,136.7	7,068.4	97.7	18.7	99.15	400.4	-2,373.9	965.2	851.9	113.31	8.518		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-1.83	-1.83	87.4	-2.8	87.5				
100.0	100.0	99.0	99.0	0.1	0.1	-1.83	-1.83	87.4	-2.8	87.5	87.2	0.22	391.108	
200.0	200.0	199.0	199.0	0.3	0.3	-1.83	-1.83	87.4	-2.8	87.5	86.8	0.67	130.153 CC, ES	
300.0	300.0	296.1	296.1	0.6	0.6	-1.56	-1.56	89.0	-2.4	89.1	88.0	1.12	79.860	
400.0	400.0	393.0	392.9	0.8	0.8	-0.79	-0.79	93.7	-1.3	94.0	92.4	1.56	60.039	
500.0	500.0	489.5	489.0	1.0	1.0	0.33	0.33	101.6	0.6	102.1	100.1	2.03	50.369	
600.0	600.0	585.2	584.1	1.2	1.3	1.62	1.62	112.6	3.2	113.6	111.1	2.51	45.262	
700.0	700.0	680.2	677.9	1.5	1.6	2.94	2.94	126.5	6.5	128.4	125.4	3.02	42.553	
800.0	800.0	774.0	770.2	1.7	1.9	4.18	4.18	143.2	10.5	146.4	142.9	3.55	41.241	
900.0	900.0	866.7	860.7	1.9	2.3	5.29	5.29	162.6	15.1	167.7	163.6	4.11	40.789	
1,000.0	1,000.0	961.8	953.1	2.1	2.7	6.28	6.28	184.8	20.3	191.5	186.8	4.70	40.708	
1,100.0	1,100.0	1,059.2	1,047.6	2.4	3.2	-40.23	-40.23	207.6	25.8	214.2	209.3	4.83	44.369	
1,200.0	1,199.8	1,157.2	1,142.6	2.6	3.6	-40.13	-40.13	230.7	31.3	234.3	229.0	5.30	44.213	
1,300.0	1,299.5	1,255.6	1,238.1	2.8	4.1	-40.57	-40.57	253.8	36.8	251.8	246.0	5.79	43.522	
1,400.0	1,398.8	1,354.2	1,333.8	3.0	4.6	-41.44	-41.44	277.0	42.3	267.6	261.3	6.30	42.501	
1,500.0	1,498.2	1,452.9	1,429.6	3.3	5.1	-42.28	-42.28	300.2	47.8	283.3	276.5	6.82	41.557	
1,600.0	1,597.6	1,551.6	1,525.3	3.6	5.6	-43.02	-43.02	323.4	53.3	299.1	291.8	7.35	40.708	
1,700.0	1,696.9	1,650.3	1,621.1	3.8	6.1	-43.69	-43.69	346.6	58.8	314.9	307.1	7.89	39.940	
1,800.0	1,796.3	1,748.9	1,716.8	4.1	6.5	-44.30	-44.30	369.8	64.3	330.8	322.4	8.43	39.245	
1,900.0	1,895.7	1,847.6	1,812.6	4.4	7.0	-44.85	-44.85	393.0	69.8	346.7	337.8	8.98	38.613	
2,000.0	1,995.0	1,946.3	1,908.3	4.7	7.5	-45.35	-45.35	416.2	75.3	362.7	353.1	9.53	38.038	
2,100.0	2,094.4	2,044.9	2,004.1	4.9	8.0	-45.82	-45.82	439.4	80.9	378.7	368.6	10.09	37.513	
2,200.0	2,193.8	2,143.6	2,099.8	5.2	8.5	-46.24	-46.24	462.6	86.4	394.6	384.0	10.66	37.032	
2,300.0	2,293.2	2,242.3	2,195.6	5.5	9.0	-46.63	-46.63	485.8	91.9	410.7	399.4	11.22	36.589	
2,400.0	2,392.5	2,341.0	2,291.3	5.8	9.5	-46.99	-46.99	509.0	97.4	426.7	414.9	11.79	36.182	
2,500.0	2,491.9	2,439.6	2,387.1	6.1	10.0	-47.32	-47.32	532.2	102.9	442.7	430.4	12.36	35.806	
2,600.0	2,591.3	2,538.3	2,482.8	6.4	10.5	-47.64	-47.64	555.4	108.4	458.8	445.8	12.94	35.458	
2,700.0	2,690.6	2,637.0	2,578.6	6.7	10.9	-47.93	-47.93	578.6	113.9	474.8	461.3	13.52	35.134	
2,800.0	2,790.0	2,735.7	2,674.3	7.0	11.4	-48.20	-48.20	601.8	119.4	490.9	476.8	14.09	34.833	
2,900.0	2,889.4	2,834.3	2,770.1	7.3	11.9	-48.45	-48.45	625.0	125.0	507.0	492.3	14.67	34.553	
3,000.0	2,988.7	2,933.0	2,865.8	7.6	12.4	-48.69	-48.69	648.2	130.5	523.1	507.9	15.26	34.291	
3,100.0	3,088.1	3,031.7	2,961.6	7.9	12.9	-48.91	-48.91	671.3	136.0	539.2	523.4	15.84	34.045	
3,200.0	3,187.5	3,130.4	3,057.3	8.2	13.4	-49.13	-49.13	694.5	141.5	555.3	538.9	16.42	33.815	
3,300.0	3,286.8	3,229.0	3,153.1	8.5	13.9	-49.33	-49.33	717.7	147.0	571.4	554.4	17.01	33.599	
3,400.0	3,386.2	3,327.7	3,248.8	8.8	14.4	-49.51	-49.51	740.9	152.5	587.6	570.0	17.59	33.395	
3,500.0	3,485.6	3,426.4	3,344.6	9.1	14.9	-49.69	-49.69	764.1	158.0	603.7	585.5	18.18	33.203	
3,600.0	3,585.0	3,525.0	3,440.3	9.4	15.4	-49.86	-49.86	787.3	163.5	619.8	601.1	18.77	33.022	
3,700.0	3,684.3	3,623.7	3,536.1	9.7	15.9	-50.02	-50.02	810.5	169.1	636.0	616.6	19.36	32.850	
3,800.0	3,783.7	3,722.4	3,631.8	10.0	16.3	-50.17	-50.17	833.7	174.6	652.1	632.2	19.95	32.688	
3,900.0	3,883.1	3,821.1	3,727.6	10.3	16.8	-50.32	-50.32	856.9	180.1	668.3	647.8	20.54	32.534	
4,000.0	3,982.4	3,919.7	3,823.3	10.6	17.3	-50.46	-50.46	880.1	185.6	684.4	663.3	21.13	32.387	
4,100.0	4,081.8	4,018.4	3,919.1	10.9	17.8	-50.59	-50.59	903.3	191.1	700.6	678.9	21.73	32.248	
4,200.0	4,181.2	4,117.1	4,014.8	11.2	18.3	-50.72	-50.72	926.5	196.6	716.8	694.5	22.32	32.116	
4,300.0	4,280.5	4,215.8	4,110.6	11.5	18.8	-50.84	-50.84	949.7	202.1	732.9	710.0	22.91	31.990	
4,400.0	4,379.9	4,314.4	4,206.3	11.8	19.3	-50.95	-50.95	972.9	207.6	749.1	725.6	23.51	31.869	
4,500.0	4,479.3	4,413.1	4,302.1	12.1	19.8	-51.06	-51.06	996.1	213.2	765.3	741.2	24.10	31.754	
4,600.0	4,578.6	4,511.8	4,397.8	12.4	20.3	-51.17	-51.17	1,019.3	218.7	781.5	756.8	24.69	31.644	
4,700.0	4,678.0	4,610.4	4,493.6	12.7	20.8	-51.27	-51.27	1,042.5	224.2	797.6	772.3	25.29	31.539	
4,800.0	4,777.6	4,708.9	4,589.1	12.9	21.3	-51.54	-51.54	1,065.7	229.7	814.9	789.0	25.83	31.552	
4,900.0	4,877.4	4,807.0	4,684.3	13.1	21.8	-51.66	-51.66	1,088.7	235.2	834.2	808.0	26.28	31.745	
5,000.0	4,977.3	4,904.5	4,778.9	13.3	22.2	-51.64	-51.64	1,111.6	240.6	855.8	829.1	26.68	32.071	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-234 - Wellbore #1 - Plan #1 (4-14-14)												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,077.3	5,001.6	4,873.1	13.4	22.7	-3.95	1,134.4	246.0	878.8	844.6	34.23	25.673 SF	
5,200.0	5,177.3	5,098.6	4,967.2	13.6	23.2	-3.50	1,157.3	251.5	902.0	867.0	34.95	25.810	
5,300.0	5,277.3	5,195.6	5,061.4	13.8	23.7	-3.07	1,180.1	256.9	925.2	889.5	35.66	25.943	
5,400.0	5,377.3	5,292.7	5,155.6	14.0	24.2	-2.65	1,202.9	262.3	948.4	912.0	36.38	26.073	
5,500.0	5,477.3	5,389.7	5,249.7	14.2	24.7	-2.26	1,225.7	267.7	971.7	934.6	37.09	26.199	
5,600.0	5,577.3	5,486.8	5,343.9	14.4	25.2	-1.89	1,248.5	273.1	995.1	957.3	37.80	26.323	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design		Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-434 - Wellbore #1 - Plan #1 (12-18-14)											Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	0.00	58.3	0.0	58.3						
100.0	100.0	99.0	99.0	0.1	0.1	0.00	58.3	0.0	58.3	58.1	0.22	260.631			
200.0	200.0	199.0	199.0	0.3	0.3	0.00	58.3	0.0	58.3	57.6	0.67	86.732			
300.0	300.0	299.0	299.0	0.6	0.6	0.00	58.3	0.0	58.3	57.2	1.12	51.970			
400.0	400.0	399.0	399.0	0.8	0.8	0.00	58.3	0.0	58.3	56.7	1.57	37.100 CC, ES			
500.0	500.0	497.1	497.1	1.0	1.0	0.49	59.9	0.5	59.9	57.9	2.02	29.710			
600.0	600.0	594.9	594.8	1.2	1.2	1.83	64.6	2.1	64.8	62.3	2.46	26.286			
700.0	700.0	692.3	691.8	1.5	1.5	3.66	72.4	4.6	73.0	70.0	2.92	24.968			
800.0	800.0	789.0	787.8	1.7	1.7	5.62	83.4	8.2	84.5	81.1	3.40	24.874			
900.0	900.0	884.9	882.5	1.9	2.0	7.47	97.2	12.7	99.4	95.5	3.89	25.522			
1,000.0	1,000.0	982.6	978.8	2.1	2.3	9.04	113.4	18.1	116.6	112.2	4.42	26.414			
1,100.0	1,100.0	1,081.3	1,075.9	2.4	2.7	-37.33	129.9	23.4	132.6	127.9	4.76	27.892			
1,200.0	1,199.8	1,180.4	1,173.5	2.6	3.0	-37.42	146.5	28.9	145.9	140.7	5.21	27.999			
1,300.0	1,299.5	1,279.8	1,271.3	2.8	3.4	-38.30	163.1	34.3	156.5	150.8	5.68	27.547			
1,400.0	1,398.8	1,379.3	1,369.3	3.0	3.8	-39.68	179.7	39.7	165.2	159.0	6.17	26.775			
1,500.0	1,498.2	1,478.9	1,467.3	3.3	4.1	-40.97	196.3	45.2	174.0	167.3	6.67	26.072			
1,600.0	1,597.6	1,578.4	1,565.3	3.6	4.5	-42.13	212.9	50.6	182.8	175.6	7.18	25.443			
1,700.0	1,696.9	1,678.0	1,663.3	3.8	4.9	-43.18	229.5	56.1	191.7	184.0	7.70	24.881			
1,800.0	1,796.3	1,777.5	1,761.3	4.1	5.3	-44.14	246.2	61.5	200.6	192.4	8.23	24.375			
1,900.0	1,895.7	1,877.0	1,859.3	4.4	5.7	-45.02	262.8	66.9	209.6	200.9	8.76	23.919			
2,000.0	1,995.0	1,976.6	1,957.3	4.7	6.0	-45.83	279.4	72.4	218.7	209.4	9.30	23.505			
2,100.0	2,094.4	2,076.1	2,055.3	4.9	6.4	-46.57	296.0	77.8	227.8	217.9	9.85	23.129			
2,200.0	2,193.8	2,175.7	2,153.3	5.2	6.8	-47.26	312.6	83.3	236.9	226.5	10.40	22.785			
2,300.0	2,293.2	2,275.2	2,251.3	5.5	7.2	-47.89	329.3	88.7	246.1	235.1	10.95	22.470			
2,400.0	2,392.5	2,374.8	2,349.3	5.8	7.6	-48.48	345.9	94.2	255.3	243.8	11.51	22.181			
2,500.0	2,491.9	2,474.3	2,447.3	6.1	8.0	-49.02	362.5	99.6	264.5	252.4	12.07	21.915			
2,600.0	2,591.3	2,573.8	2,545.3	6.4	8.4	-49.54	379.1	105.0	273.7	261.1	12.63	21.669			
2,700.0	2,690.6	2,673.4	2,643.3	6.7	8.7	-50.01	395.7	110.5	283.0	269.8	13.20	21.441			
2,800.0	2,790.0	2,772.9	2,741.3	7.0	9.1	-50.46	412.4	115.9	292.2	278.5	13.77	21.230			
2,900.0	2,889.4	2,872.5	2,839.3	7.3	9.5	-50.88	429.0	121.4	301.5	287.2	14.34	21.033			
3,000.0	2,988.7	2,972.0	2,937.3	7.6	9.9	-51.27	445.6	126.8	310.8	295.9	14.91	20.850			
3,100.0	3,088.1	3,071.6	3,035.3	7.9	10.3	-51.65	462.2	132.2	320.2	304.7	15.48	20.679			
3,200.0	3,187.5	3,171.1	3,133.3	8.2	10.7	-52.00	478.8	137.7	329.5	313.4	16.06	20.518			
3,300.0	3,286.8	3,270.7	3,231.2	8.5	11.1	-52.33	495.5	143.1	338.8	322.2	16.64	20.368			
3,400.0	3,386.2	3,370.2	3,329.2	8.8	11.5	-52.64	512.1	148.6	348.2	331.0	17.21	20.226			
3,500.0	3,485.6	3,469.7	3,427.2	9.1	11.9	-52.94	528.7	154.0	357.6	339.8	17.79	20.093			
3,600.0	3,585.0	3,569.3	3,525.2	9.4	12.2	-53.22	545.3	159.5	366.9	348.6	18.38	19.968			
3,700.0	3,684.3	3,668.8	3,623.2	9.7	12.6	-53.49	561.9	164.9	376.3	357.3	18.96	19.849			
3,800.0	3,783.7	3,768.4	3,721.2	10.0	13.0	-53.74	578.6	170.3	385.7	366.2	19.54	19.737			
3,900.0	3,883.1	3,867.9	3,819.2	10.3	13.4	-53.98	595.2	175.8	395.1	375.0	20.13	19.631			
4,000.0	3,982.4	3,967.5	3,917.2	10.6	13.8	-54.22	611.8	181.2	404.5	383.8	20.71	19.531			
4,100.0	4,081.8	4,067.0	4,015.2	10.9	14.2	-54.44	628.4	186.7	413.9	392.6	21.30	19.435			
4,200.0	4,181.2	4,166.6	4,113.2	11.2	14.6	-54.65	645.1	192.1	423.3	401.4	21.88	19.344			
4,300.0	4,280.5	4,266.1	4,211.2	11.5	15.0	-54.85	661.7	197.5	432.7	410.3	22.47	19.258			
4,400.0	4,379.9	4,365.6	4,309.2	11.8	15.4	-55.04	678.3	203.0	442.2	419.1	23.06	19.176			
4,500.0	4,479.3	4,465.2	4,407.2	12.1	15.8	-55.23	694.9	208.4	451.6	427.9	23.65	19.097			
4,600.0	4,578.6	4,564.7	4,505.2	12.4	16.1	-55.41	711.5	213.9	461.0	436.8	24.24	19.022			
4,700.0	4,678.0	4,664.3	4,603.2	12.7	16.5	-55.58	728.2	219.3	470.5	445.6	24.83	18.951			
4,800.0	4,777.6	4,763.7	4,701.1	12.9	16.9	-55.74	744.8	224.7	480.9	455.5	25.35	18.968			
4,900.0	4,877.4	4,862.9	4,798.7	13.1	17.3	-55.60	761.3	230.2	493.2	467.5	25.78	19.130			
5,000.0	4,977.3	4,961.7	4,896.0	13.3	17.7	-55.19	777.8	235.6	507.6	481.4	26.15	19.409			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design											Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-434 - Wellbore #1 - Plan #1 (12-18-14)			Offset Site Error:		0.0 ft
Survey Program: 0-MWD											Offset Well Error:		0.0 ft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
5,100.0	5,077.3	5,060.2	4,992.9	13.4	18.1	-7.12	794.3	241.0	523.4	494.2	29.24	17.901				
5,200.0	5,177.3	5,158.6	5,089.8	13.6	18.5	-6.33	810.7	246.3	539.4	509.5	29.89	18.050				
5,300.0	5,277.3	5,257.1	5,186.7	13.8	18.9	-5.58	827.1	251.7	555.5	525.0	30.53	18.197				
5,400.0	5,377.3	5,355.5	5,283.7	14.0	19.2	-4.87	843.6	257.1	571.7	540.5	31.16	18.344				
5,500.0	5,477.3	5,453.9	5,380.6	14.2	19.6	-4.20	860.0	262.5	587.9	556.1	31.80	18.488				
5,600.0	5,577.3	5,552.4	5,477.5	14.4	20.0	-3.57	876.4	267.9	604.2	571.8	32.43	18.631				
5,700.0	5,677.3	5,650.8	5,574.4	14.6	20.4	-2.97	892.9	273.2	620.6	587.6	33.06	18.771				
5,800.0	5,777.3	5,749.3	5,671.3	14.7	20.8	-2.41	909.3	278.6	637.1	603.4	33.69	18.909				
5,900.0	5,877.3	5,847.7	5,768.2	14.9	21.2	-1.87	925.8	284.0	653.6	619.3	34.32	19.045				
6,000.0	5,977.3	5,946.2	5,865.1	15.1	21.6	-1.35	942.2	289.4	670.2	635.2	34.94	19.179				
6,100.0	6,077.3	6,064.1	5,981.4	15.3	21.9	-0.81	960.7	295.4	685.8	650.3	35.57	19.281				
6,200.0	6,177.3	6,192.8	6,109.1	15.5	22.3	-0.38	975.8	300.4	697.6	661.4	36.14	19.304				
6,300.0	6,277.3	6,322.7	6,238.6	15.7	22.5	-0.12	985.6	303.6	705.1	668.5	36.62	19.252				
6,400.0	6,377.2	6,453.1	6,368.9	15.9	22.7	90.22	989.7	304.9	708.3	676.7	31.59	22.420				
6,500.0	6,475.9	6,559.0	6,474.9	15.9	22.9	91.53	989.9	305.0	708.7	676.9	31.72	22.342				
6,600.0	6,571.6	6,657.4	6,573.2	16.0	23.0	93.63	989.9	303.8	709.9	678.2	31.71	22.389				
6,700.0	6,662.7	6,761.4	6,676.3	16.0	23.1	95.90	989.9	291.1	712.5	680.9	31.63	22.523				
6,800.0	6,747.8	6,870.1	6,781.3	16.0	23.1	98.12	989.9	262.9	716.2	684.6	31.59	22.674				
6,900.0	6,825.2	6,984.1	6,885.8	16.0	23.1	100.24	989.9	217.6	720.7	689.0	31.65	22.769				
7,000.0	6,893.7	7,103.7	6,987.0	16.1	23.1	102.21	989.9	154.1	725.7	693.8	31.96	22.710				
7,100.0	6,952.2	7,229.0	7,080.9	16.7	23.0	103.97	989.8	71.4	730.9	698.2	32.67	22.374				
7,200.0	6,999.6	7,359.7	7,163.2	17.6	23.0	105.48	989.8	-29.9	735.7	701.7	33.97	21.657				
7,300.0	7,035.0	7,495.3	7,229.0	18.9	23.1	106.65	989.8	-148.3	739.7	703.7	36.00	20.546				
7,400.0	7,058.0	7,634.8	7,273.8	20.5	23.7	107.43	989.8	-280.2	742.5	703.6	38.88	19.096				
7,500.0	7,068.1	7,776.5	7,294.0	22.3	25.1	107.78	989.7	-420.2	743.8	701.3	42.51	17.495				
7,600.0	7,068.6	7,895.8	7,292.7	24.3	26.9	107.63	989.7	-539.5	743.2	696.7	46.49	15.985				
7,700.0	7,068.5	7,995.8	7,289.2	26.4	28.8	107.39	989.7	-639.4	742.1	691.6	50.54	14.684				
7,800.0	7,068.4	8,095.7	7,285.8	28.7	30.8	107.14	989.7	-739.3	741.1	686.3	54.83	13.515				
7,900.0	7,068.4	8,195.7	7,282.3	31.0	33.0	106.89	989.6	-839.2	740.1	680.8	59.33	12.475				
8,000.0	7,068.3	8,295.6	7,278.9	33.4	35.3	106.64	989.6	-939.1	739.1	675.1	63.98	11.552				
8,100.0	7,068.2	8,395.6	7,275.4	35.9	37.6	106.39	989.6	-1,038.9	738.1	669.3	68.76	10.735				
8,200.0	7,068.2	8,495.5	7,272.0	38.4	40.0	106.13	989.6	-1,138.8	737.1	663.5	73.65	10.009				
8,300.0	7,068.1	8,595.4	7,268.5	40.9	42.4	105.88	989.6	-1,238.7	736.2	657.6	78.62	9.363				
8,400.0	7,068.0	8,695.4	7,265.1	43.5	44.9	105.63	989.5	-1,338.6	735.2	651.6	83.68	8.787				
8,500.0	7,067.9	8,795.3	7,261.6	46.1	47.5	105.37	989.5	-1,438.5	734.3	645.5	88.79	8.270				
8,600.0	7,067.9	8,895.3	7,258.2	48.7	50.0	105.12	989.5	-1,538.4	733.4	639.4	93.97	7.805				
8,700.0	7,067.8	8,995.2	7,254.7	51.4	52.6	104.86	989.5	-1,638.2	732.5	633.3	99.19	7.385				
8,800.0	7,067.7	9,095.2	7,251.3	54.0	55.2	104.61	989.4	-1,738.1	731.6	627.2	104.45	7.004				
8,900.0	7,067.7	9,195.1	7,247.8	56.7	57.8	104.35	989.4	-1,838.0	730.7	621.0	109.75	6.658				
9,000.0	7,067.6	9,295.0	7,244.3	59.4	60.5	104.10	989.4	-1,937.9	729.9	614.8	115.09	6.342				
9,100.0	7,067.5	9,395.0	7,240.9	62.1	63.1	103.84	989.4	-2,037.8	729.1	608.6	120.46	6.052				
9,200.0	7,067.5	9,494.9	7,237.4	64.8	65.8	103.58	989.4	-2,137.7	728.2	602.4	125.85	5.787				
9,300.0	7,067.4	9,594.9	7,234.0	67.5	68.5	103.32	989.3	-2,237.5	727.4	596.2	131.27	5.541				
9,400.0	7,067.3	9,694.8	7,230.5	70.3	71.1	103.06	989.3	-2,337.4	726.6	589.9	136.71	5.315				
9,500.0	7,067.3	9,794.8	7,227.1	73.0	73.8	102.80	989.3	-2,437.3	725.8	583.7	142.18	5.105				
9,600.0	7,067.2	9,894.7	7,223.6	75.7	76.5	102.54	989.3	-2,537.2	725.1	577.4	147.66	4.911				
9,700.0	7,067.1	9,994.6	7,220.2	78.5	79.2	102.28	989.3	-2,637.1	724.3	571.2	153.16	4.729				
9,800.0	7,067.0	10,094.6	7,216.7	81.2	82.0	102.02	989.2	-2,737.0	723.6	564.9	158.68	4.560				
9,900.0	7,067.0	10,194.5	7,213.3	84.0	84.7	101.76	989.2	-2,836.8	722.9	558.7	164.21	4.402				
10,000.0	7,066.9	10,294.5	7,209.8	86.7	87.4	101.50	989.2	-2,936.7	722.2	552.4	169.76	4.254				
10,100.0	7,066.8	10,394.4	7,206.4	89.5	90.1	101.23	989.2	-3,036.6	721.5	546.2	175.32	4.115				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32W-434 - Wellbore #1 - Plan #1 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	7,066.8	10,494.4	7,202.9	92.2	92.9	100.97	100.97	989.1	-3,136.5	720.8	539.9	180.89	3.985	
10,300.0	7,066.7	10,594.3	7,199.5	95.0	95.6	100.71	100.71	989.1	-3,236.4	720.2	533.7	186.48	3.862	
10,400.0	7,066.6	10,694.2	7,196.0	97.7	98.4	100.44	100.44	989.1	-3,336.3	719.5	527.4	192.08	3.746	
10,500.0	7,066.6	10,794.2	7,192.6	100.5	101.1	100.18	100.18	989.1	-3,436.1	718.9	521.2	197.68	3.637	
10,600.0	7,066.5	10,894.1	7,189.1	103.3	103.8	99.91	99.91	989.1	-3,536.0	718.3	515.0	203.30	3.533	
10,700.0	7,066.4	10,994.1	7,185.6	106.1	106.6	99.64	99.64	989.0	-3,635.9	717.7	508.8	208.92	3.435	
10,800.0	7,066.3	11,094.0	7,182.2	108.8	109.4	99.38	99.38	989.0	-3,735.8	717.1	502.5	214.55	3.342	
10,900.0	7,066.3	11,194.0	7,178.7	111.6	112.1	99.11	99.11	989.0	-3,835.7	716.5	496.3	220.19	3.254	
11,000.0	7,066.2	11,293.9	7,175.3	114.4	114.9	98.84	98.84	989.0	-3,935.5	716.0	490.1	225.84	3.170	
11,100.0	7,066.1	11,393.8	7,171.8	117.2	117.6	98.58	98.58	989.0	-4,035.4	715.4	483.9	231.49	3.091	
11,200.0	7,066.1	11,493.8	7,168.4	119.9	120.4	98.31	98.31	988.9	-4,135.3	714.9	477.8	237.15	3.015	
11,300.0	7,066.0	11,593.7	7,164.9	122.7	123.2	98.04	98.04	988.9	-4,235.2	714.4	471.6	242.81	2.942	
11,400.0	7,065.9	11,693.7	7,161.5	125.5	125.9	97.77	97.77	988.9	-4,335.1	713.9	465.4	248.48	2.873	
11,500.0	7,065.9	11,793.6	7,158.0	128.3	128.7	97.50	97.50	988.9	-4,435.0	713.5	459.3	254.15	2.807	
11,600.0	7,065.8	11,893.6	7,154.6	131.1	131.5	97.23	97.23	988.8	-4,534.8	713.0	453.2	259.83	2.744	
11,700.0	7,065.7	11,993.5	7,151.1	133.8	134.2	96.96	96.96	988.8	-4,634.7	712.6	447.1	265.51	2.684	
11,800.0	7,065.6	12,093.4	7,147.7	136.6	137.0	96.69	96.69	988.8	-4,734.6	712.1	440.9	271.19	2.626	
11,900.0	7,065.6	12,193.4	7,144.2	139.4	139.8	96.42	96.42	988.8	-4,834.5	711.7	434.9	276.87	2.571	
12,000.0	7,065.5	12,293.3	7,140.8	142.2	142.5	96.15	96.15	988.8	-4,934.4	711.3	428.8	282.56	2.517	
12,100.0	7,065.4	12,393.3	7,137.3	145.0	145.3	95.88	95.88	988.7	-5,034.3	711.0	422.7	288.25	2.466	
12,200.0	7,065.4	12,493.2	7,133.9	147.8	148.1	95.61	95.61	988.7	-5,134.1	710.6	416.7	293.93	2.418	
12,300.0	7,065.3	12,593.2	7,130.4	150.6	150.9	95.34	95.34	988.7	-5,234.0	710.3	410.6	299.62	2.370	
12,400.0	7,065.2	12,693.1	7,126.9	153.4	153.7	95.07	95.07	988.7	-5,333.9	709.9	404.6	305.31	2.325	
12,500.0	7,065.2	12,793.0	7,123.5	156.1	156.4	94.80	94.80	988.7	-5,433.8	709.6	398.6	311.00	2.282	
12,600.0	7,065.1	12,893.0	7,120.0	158.9	159.2	94.52	94.52	988.6	-5,533.7	709.3	392.6	316.68	2.240	
12,700.0	7,065.0	12,992.9	7,116.6	161.7	162.0	94.25	94.25	988.6	-5,633.6	709.0	386.7	322.37	2.199	
12,800.0	7,064.9	13,092.9	7,113.1	164.5	164.8	93.98	93.98	988.6	-5,733.4	708.8	380.7	328.05	2.161	
12,900.0	7,064.9	13,192.8	7,109.7	167.3	167.6	93.71	93.71	988.6	-5,833.3	708.5	374.8	333.73	2.123	
13,000.0	7,064.8	13,292.8	7,106.2	170.1	170.3	93.43	93.43	988.5	-5,933.2	708.3	368.9	339.41	2.087	
13,100.0	7,064.7	13,392.7	7,102.8	172.9	173.1	93.16	93.16	988.5	-6,033.1	708.1	363.0	345.09	2.052	
13,200.0	7,064.7	13,492.6	7,099.3	175.7	175.9	92.89	92.89	988.5	-6,133.0	707.9	357.1	350.76	2.018	
13,300.0	7,064.6	13,592.6	7,095.9	178.5	178.7	92.61	92.61	988.5	-6,232.9	707.7	351.3	356.43	1.985	
13,400.0	7,064.5	13,692.5	7,092.4	181.3	181.5	92.34	92.34	988.5	-6,332.7	707.5	345.4	362.09	1.954	
13,500.0	7,064.5	13,792.5	7,089.0	184.1	184.3	92.07	92.07	988.4	-6,432.6	707.4	339.6	367.75	1.923	
13,600.0	7,064.4	13,892.4	7,085.5	186.9	187.1	91.79	91.79	988.4	-6,532.5	707.2	333.8	373.40	1.894	
13,700.0	7,064.3	13,992.3	7,082.1	189.7	189.8	91.52	91.52	988.4	-6,632.4	707.1	328.1	379.05	1.865	
13,800.0	7,064.2	14,092.3	7,078.6	192.5	192.6	91.24	91.24	988.4	-6,732.3	707.0	322.3	384.69	1.838	
13,900.0	7,064.2	14,192.2	7,075.1	195.3	195.4	90.97	90.97	988.3	-6,832.2	706.9	316.6	390.33	1.811	
14,000.0	7,064.1	14,292.2	7,071.7	198.1	198.2	90.70	90.70	988.3	-6,932.0	706.8	310.9	395.96	1.785	
14,100.0	7,064.0	14,392.1	7,068.2	200.9	201.0	90.42	90.42	988.3	-7,031.9	706.8	305.2	401.58	1.760	
14,157.0	7,064.0	14,449.1	7,066.3	202.5	202.6	90.27	90.27	988.3	-7,088.9	706.8	302.0	404.78	1.746 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-304 - Wellbore #1 - Plan #3 (12-18-14)														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-180.00	-32.8	0.0	32.8				
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-180.00	-32.8	0.0	32.8	32.6	0.22	145.891	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-180.00	-32.8	0.0	32.8	32.1	0.67	48.630	
300.0	300.0	300.0	300.0	0.6	0.6	-180.00	-180.00	-32.8	0.0	32.8	31.7	1.12	29.178	
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-180.00	-32.8	0.0	32.8	31.2	1.57	20.842	
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-180.00	-32.8	0.0	32.8	30.8	2.02	16.210	
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-180.00	-32.8	0.0	32.8	30.3	2.47	13.263	
700.0	700.0	700.0	700.0	1.5	1.5	-180.00	-180.00	-32.8	0.0	32.8	29.9	2.92	11.222	
800.0	800.0	800.0	800.0	1.7	1.7	-180.00	-180.00	-32.8	0.0	32.8	29.4	3.37	9.726	
900.0	900.0	900.0	900.0	1.9	1.9	-180.00	-180.00	-32.8	0.0	32.8	29.0	3.82	8.582	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-180.00	-180.00	-32.8	0.0	32.8	28.5	4.27	7.678 CC	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	134.85	134.85	-32.8	0.0	34.0	29.3	4.72	7.210	
1,200.0	1,199.8	1,199.8	1,199.8	2.6	2.6	140.42	140.42	-32.8	0.0	37.9	32.7	5.16	7.343	
1,300.0	1,299.5	1,299.5	1,299.5	2.8	2.8	147.43	147.43	-32.8	0.0	44.9	39.3	5.60	8.028	
1,400.0	1,398.8	1,398.8	1,398.8	3.0	3.0	153.70	153.70	-32.8	0.0	54.7	48.6	6.04	9.045	
1,500.0	1,498.2	1,498.2	1,498.2	3.3	3.3	158.09	158.09	-32.8	0.0	64.9	58.4	6.49	10.000	
1,600.0	1,597.6	1,600.0	1,599.9	3.6	3.5	160.82	160.82	-31.7	1.4	73.9	66.9	6.94	10.643	
1,700.0	1,696.9	1,702.3	1,702.2	3.8	3.7	162.04	162.04	-28.3	5.5	79.6	72.2	7.39	10.776	
1,800.0	1,796.3	1,805.0	1,804.4	4.1	3.9	162.20	162.20	-22.5	12.6	82.1	74.2	7.85	10.458	
1,900.0	1,895.7	1,905.0	1,903.8	4.4	4.2	161.91	161.91	-15.8	20.8	82.9	74.6	8.31	9.976	
2,000.0	1,995.0	2,005.0	2,003.3	4.7	4.4	161.63	161.63	-9.2	29.0	83.7	74.9	8.77	9.541	
2,100.0	2,094.4	2,105.0	2,102.7	4.9	4.7	161.35	161.35	-2.5	37.2	84.5	75.3	9.24	9.146	
2,200.0	2,193.8	2,205.0	2,202.1	5.2	4.9	161.08	161.08	4.2	45.4	85.4	75.6	9.71	8.786	
2,300.0	2,293.2	2,305.0	2,301.6	5.5	5.2	160.81	160.81	10.9	53.6	86.2	76.0	10.19	8.457	
2,400.0	2,392.5	2,405.0	2,401.0	5.8	5.4	160.55	160.55	17.6	61.8	87.0	76.3	10.67	8.156	
2,500.0	2,491.9	2,505.0	2,500.4	6.1	5.7	160.30	160.30	24.3	70.0	87.8	76.7	11.15	7.879	
2,600.0	2,591.3	2,604.9	2,599.9	6.4	6.0	160.04	160.04	31.0	78.2	88.7	77.0	11.63	7.623	
2,700.0	2,690.6	2,704.9	2,699.3	6.7	6.2	159.80	159.80	37.7	86.4	89.5	77.4	12.12	7.386	
2,800.0	2,790.0	2,804.9	2,798.7	7.0	6.5	159.55	159.55	44.4	94.6	90.3	77.7	12.60	7.167	
2,900.0	2,889.4	2,904.9	2,898.2	7.3	6.8	159.31	159.31	51.1	102.8	91.2	78.1	13.09	6.963	
3,000.0	2,988.7	3,004.9	2,997.6	7.6	7.1	159.08	159.08	57.8	111.0	92.0	78.4	13.58	6.773	
3,100.0	3,088.1	3,104.9	3,097.0	7.9	7.3	158.85	158.85	64.5	119.2	92.8	78.8	14.07	6.596	
3,200.0	3,187.5	3,204.9	3,196.5	8.2	7.6	158.62	158.62	71.2	127.5	93.7	79.1	14.57	6.430	
3,300.0	3,286.8	3,304.9	3,295.9	8.5	7.9	158.40	158.40	77.9	135.7	94.5	79.4	15.06	6.275	
3,400.0	3,386.2	3,404.9	3,395.3	8.8	8.2	158.18	158.18	84.6	143.9	95.3	79.8	15.56	6.129	
3,500.0	3,485.6	3,504.9	3,494.8	9.1	8.5	157.97	157.97	91.3	152.1	96.2	80.1	16.05	5.991	
3,600.0	3,585.0	3,604.9	3,594.2	9.4	8.8	157.76	157.76	98.0	160.3	97.0	80.5	16.55	5.862	
3,700.0	3,684.3	3,704.9	3,693.6	9.7	9.0	157.55	157.55	104.6	168.5	97.9	80.8	17.05	5.739	
3,800.0	3,783.7	3,804.9	3,793.1	10.0	9.3	157.35	157.35	111.3	176.7	98.7	81.2	17.55	5.624	
3,900.0	3,883.1	3,904.9	3,892.5	10.3	9.6	157.15	157.15	118.0	184.9	99.6	81.5	18.06	5.514	
4,000.0	3,982.4	4,004.9	3,991.9	10.6	9.9	156.95	156.95	124.7	193.1	100.4	81.9	18.56	5.411	
4,100.0	4,081.8	4,104.9	4,091.4	10.9	10.2	156.76	156.76	131.4	201.3	101.3	82.2	19.06	5.312	
4,200.0	4,181.2	4,204.9	4,190.8	11.2	10.5	156.57	156.57	138.1	209.5	102.1	82.5	19.57	5.219	
4,300.0	4,280.5	4,304.9	4,290.2	11.5	10.8	156.38	156.38	144.8	217.7	103.0	82.9	20.07	5.129	
4,400.0	4,379.9	4,404.9	4,389.7	11.8	11.1	156.20	156.20	151.5	225.9	103.8	83.2	20.58	5.045	
4,500.0	4,479.3	4,504.9	4,489.1	12.1	11.3	156.02	156.02	158.2	234.1	104.7	83.6	21.09	4.964	
4,600.0	4,578.6	4,604.9	4,588.5	12.4	11.6	155.84	155.84	164.9	242.3	105.5	83.9	21.60	4.886	
4,700.0	4,678.0	4,704.9	4,688.0	12.7	11.9	155.66	155.66	171.6	250.5	106.4	84.3	22.10	4.813	
4,800.0	4,777.6	4,804.8	4,787.4	12.9	12.2	155.10	155.10	178.3	258.7	105.7	83.1	22.61	4.674	
4,900.0	4,877.4	4,904.7	4,886.7	13.1	12.5	153.66	153.66	185.0	266.9	101.8	78.7	23.11	4.408	
5,000.0	4,977.3	5,004.4	4,985.8	13.3	12.8	151.09	151.09	191.6	275.1	95.0	71.4	23.64	4.018	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,077.3	5,103.9	5,084.7	13.4	13.1	-165.37		198.3	283.3	86.3	61.0	25.30	3.412	
5,200.0	5,177.3	5,203.3	5,183.6	13.6	13.4	-169.96		204.9	291.4	78.0	52.5	25.47	3.062	
5,300.0	5,277.3	5,301.3	5,281.1	13.8	13.6	-174.76		210.7	298.5	71.2	45.6	25.59	2.781	
5,400.0	5,377.3	5,400.0	5,379.7	14.0	13.8	-178.33		214.4	303.0	67.2	41.4	25.75	2.608	
5,500.0	5,477.3	5,498.0	5,477.7	14.2	14.0	-179.94		216.0	304.9	65.5	39.5	26.01	2.520	
5,543.1	5,520.4	5,540.8	5,520.4	14.3	14.1	180.00		216.0	305.0	65.5	39.3	26.17	2.502	
5,600.0	5,577.3	5,597.7	5,577.3	14.4	14.2	180.00		216.0	305.0	65.5	39.1	26.39	2.482	
5,700.0	5,677.3	5,697.7	5,677.3	14.6	14.4	180.00		216.0	305.0	65.5	38.7	26.79	2.445	
5,800.0	5,777.3	5,797.7	5,777.3	14.7	14.5	180.00		216.0	305.0	65.5	38.3	27.19	2.409	
5,900.0	5,877.3	5,897.7	5,877.3	14.9	14.7	180.00		216.0	305.0	65.5	37.9	27.59	2.373	
6,000.0	5,977.3	5,997.7	5,977.3	15.1	14.9	180.00		216.0	305.0	65.5	37.5	28.00	2.339	
6,100.0	6,077.3	6,097.7	6,077.3	15.3	15.1	180.00		216.0	305.0	65.5	37.1	28.41	2.306	
6,200.0	6,177.3	6,197.7	6,177.3	15.5	15.3	180.00		216.0	305.0	65.5	36.7	28.81	2.273	
6,300.0	6,277.3	6,297.7	6,277.3	15.7	15.5	180.00		216.0	305.0	65.5	36.3	29.22	2.241	
6,342.1	6,319.4	6,339.7	6,319.4	15.8	15.6	-90.74		216.0	305.0	65.5	35.3	30.21	2.168	
6,400.0	6,377.2	6,397.6	6,377.2	15.9	15.7	-93.00		216.0	305.0	65.6	35.0	30.55	2.147	
6,500.0	6,475.9	6,497.9	6,477.4	15.9	15.9	-103.50		216.0	301.4	67.4	36.1	31.27	2.155	
6,600.0	6,571.6	6,600.0	6,578.1	16.0	16.0	-113.37		216.0	284.6	71.4	39.9	31.50	2.268	
6,700.0	6,662.7	6,704.0	6,677.4	16.0	16.0	-121.74		216.0	254.0	77.2	46.0	31.16	2.476	
6,800.0	6,747.8	6,809.8	6,773.2	16.0	16.0	-128.51		216.0	209.3	83.9	53.6	30.33	2.766	
6,900.0	6,825.2	6,917.4	6,863.3	16.0	16.0	-133.83		216.0	150.7	91.0	61.8	29.22	3.115	
7,000.0	6,893.7	7,026.6	6,945.5	16.1	16.1	-137.94		216.0	78.8	98.0	69.9	28.06	3.492	
7,100.0	6,952.2	7,137.5	7,017.5	16.7	16.5	-141.04		216.0	-5.3	104.4	77.2	27.11	3.849	
7,200.0	6,999.6	7,249.7	7,077.3	17.6	17.3	-143.32		216.0	-100.1	109.8	83.1	26.64	4.121	
7,300.0	7,035.0	7,363.0	7,123.0	18.9	18.6	-144.89		216.0	-203.8	114.0	87.1	26.88	4.240	
7,400.0	7,058.0	7,477.2	7,152.9	20.5	20.3	-145.86		216.0	-313.8	116.7	88.8	27.96	4.176	
7,500.0	7,068.1	7,591.8	7,166.2	22.3	22.4	-146.28		216.0	-427.6	118.0	88.1	29.90	3.946	
7,600.0	7,068.6	7,696.2	7,166.6	24.3	24.4	-146.25		216.0	-531.9	117.9	85.6	32.24	3.656	
7,700.0	7,068.5	7,796.2	7,166.3	26.4	26.5	-146.18		216.0	-631.9	117.7	83.0	34.69	3.392	
7,800.0	7,068.4	7,896.2	7,166.0	28.7	28.8	-146.11		216.0	-731.9	117.5	80.2	37.30	3.150	
7,900.0	7,068.4	7,996.2	7,165.7	31.0	31.1	-146.05		216.0	-831.9	117.3	77.3	40.03	2.930	
8,000.0	7,068.3	8,096.2	7,165.3	33.4	33.5	-145.98		216.0	-931.9	117.1	74.2	42.87	2.731	
8,100.0	7,068.2	8,196.2	7,165.0	35.9	35.9	-145.91		216.0	-1,031.9	116.9	71.1	45.80	2.552	
8,200.0	7,068.2	8,296.2	7,164.7	38.4	38.5	-145.85		216.0	-1,131.9	116.7	67.9	48.80	2.391	
8,300.0	7,068.1	8,396.2	7,164.4	40.9	41.0	-145.78		216.0	-1,231.9	116.5	64.6	51.86	2.246	
8,400.0	7,068.0	8,496.2	7,164.1	43.5	43.6	-145.71		216.0	-1,331.9	116.3	61.3	54.98	2.115	
8,500.0	7,067.9	8,596.2	7,163.8	46.1	46.2	-145.64		216.0	-1,431.9	116.1	57.9	58.14	1.996	
8,600.0	7,067.9	8,696.2	7,163.5	48.7	48.8	-145.57		216.0	-1,531.9	115.9	54.5	61.35	1.889	
8,700.0	7,067.8	8,796.2	7,163.1	51.4	51.4	-145.50		216.0	-1,631.9	115.7	51.1	64.60	1.791	
8,800.0	7,067.7	8,896.2	7,162.8	54.0	54.1	-145.43		216.0	-1,731.9	115.5	47.6	67.87	1.701	
8,900.0	7,067.7	8,996.2	7,162.5	56.7	56.8	-145.36		216.0	-1,831.9	115.3	44.1	71.18	1.619	
9,000.0	7,067.6	9,096.2	7,162.2	59.4	59.5	-145.30		216.0	-1,931.9	115.1	40.6	74.52	1.544	
9,100.0	7,067.5	9,196.2	7,161.9	62.1	62.2	-145.23		216.0	-2,031.9	114.9	37.0	77.88	1.475 Level 3	
9,200.0	7,067.5	9,296.2	7,161.6	64.8	64.9	-145.16		216.0	-2,131.9	114.7	33.4	81.27	1.411 Level 3	
9,300.0	7,067.4	9,396.2	7,161.3	67.5	67.6	-145.08		216.0	-2,231.9	114.5	29.8	84.67	1.352 Level 3	
9,400.0	7,067.3	9,496.2	7,160.9	70.3	70.3	-145.01		216.0	-2,331.9	114.3	26.2	88.10	1.297 Level 3	
9,500.0	7,067.3	9,596.2	7,160.6	73.0	73.0	-144.94		216.0	-2,431.9	114.1	22.5	91.55	1.246 Level 2	
9,600.0	7,067.2	9,696.2	7,160.3	75.7	75.8	-144.87		216.0	-2,531.9	113.9	18.9	95.02	1.198 Level 2	
9,700.0	7,067.1	9,796.2	7,160.0	78.5	78.5	-144.80		216.0	-2,631.9	113.7	15.2	98.50	1.154 Level 2	
9,800.0	7,067.0	9,896.2	7,159.7	81.2	81.3	-144.73		216.0	-2,731.9	113.5	11.5	102.01	1.112 Level 2	
9,900.0	7,067.0	9,996.2	7,159.4	84.0	84.0	-144.66		216.0	-2,831.9	113.3	7.8	105.53	1.073 Level 2	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-304 - Wellbore #1 - Plan #3 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,000.0	7,066.9	10,096.2	7,159.1	86.7	86.8	-144.59		216.0	-2,931.9	113.1	4.0	109.06	1.037	Level 2
10,100.0	7,066.8	10,196.2	7,158.7	89.5	89.5	-144.51		216.0	-3,031.9	112.9	0.3	112.61	1.002	Level 2
10,200.0	7,066.8	10,296.2	7,158.4	92.2	92.3	-144.44		216.0	-3,131.9	112.7	-3.5	116.18	0.970	Level 1
10,300.0	7,066.7	10,396.2	7,158.1	95.0	95.0	-144.37		216.0	-3,231.9	112.5	-7.3	119.76	0.939	Level 1
10,400.0	7,066.6	10,496.2	7,157.8	97.7	97.8	-144.29		216.0	-3,331.9	112.3	-11.1	123.36	0.910	Level 1
10,500.0	7,066.6	10,596.2	7,157.5	100.5	100.6	-144.22		216.0	-3,431.9	112.1	-14.9	126.97	0.883	Level 1
10,600.0	7,066.5	10,696.2	7,157.2	103.3	103.3	-144.15		216.0	-3,531.9	111.9	-18.7	130.59	0.857	Level 1
10,700.0	7,066.4	10,796.2	7,156.9	106.1	106.1	-144.07		216.0	-3,631.9	111.7	-22.5	134.23	0.832	Level 1
10,800.0	7,066.3	10,896.2	7,156.5	108.8	108.9	-144.00		216.0	-3,731.9	111.5	-26.4	137.88	0.809	Level 1
10,900.0	7,066.3	10,996.2	7,156.2	111.6	111.6	-143.93		216.0	-3,831.9	111.3	-30.2	141.55	0.786	Level 1
11,000.0	7,066.2	11,096.2	7,155.9	114.4	114.4	-143.85		216.0	-3,931.9	111.1	-34.1	145.23	0.765	Level 1
11,100.0	7,066.1	11,196.2	7,155.6	117.2	117.2	-143.78		216.0	-4,031.9	110.9	-38.0	148.92	0.745	Level 1
11,200.0	7,066.1	11,296.2	7,155.3	119.9	120.0	-143.70		216.0	-4,131.9	110.7	-41.9	152.62	0.725	Level 1
11,300.0	7,066.0	11,396.2	7,155.0	122.7	122.8	-143.62		216.0	-4,231.9	110.5	-45.8	156.34	0.707	Level 1
11,400.0	7,065.9	11,496.2	7,154.7	125.5	125.5	-143.55		216.0	-4,331.9	110.3	-49.8	160.07	0.689	Level 1
11,500.0	7,065.9	11,596.2	7,154.3	128.3	128.3	-143.47		216.0	-4,431.9	110.1	-53.7	163.82	0.672	Level 1
11,600.0	7,065.8	11,696.2	7,154.0	131.1	131.1	-143.40		216.0	-4,531.9	109.9	-57.6	167.58	0.656	Level 1
11,700.0	7,065.7	11,796.2	7,153.7	133.8	133.9	-143.32		216.0	-4,631.9	109.7	-61.6	171.35	0.640	Level 1
11,800.0	7,065.6	11,896.2	7,153.4	136.6	136.7	-143.24		216.0	-4,731.9	109.5	-65.6	175.13	0.625	Level 1
11,900.0	7,065.6	11,996.2	7,153.1	139.4	139.5	-143.17		216.0	-4,831.9	109.3	-69.6	178.92	0.611	Level 1
12,000.0	7,065.5	12,096.2	7,152.8	142.2	142.2	-143.09		216.0	-4,931.9	109.1	-73.6	182.73	0.597	Level 1
12,100.0	7,065.4	12,196.2	7,152.5	145.0	145.0	-143.01		216.0	-5,031.9	109.0	-77.6	186.55	0.584	Level 1
12,200.0	7,065.4	12,296.2	7,152.1	147.8	147.8	-142.93		216.0	-5,131.9	108.8	-81.6	190.39	0.571	Level 1
12,300.0	7,065.3	12,396.2	7,151.8	150.6	150.6	-142.86		216.0	-5,231.9	108.6	-85.7	194.23	0.559	Level 1
12,400.0	7,065.2	12,496.2	7,151.5	153.4	153.4	-142.78		216.0	-5,331.9	108.4	-89.7	198.09	0.547	Level 1
12,500.0	7,065.2	12,596.2	7,151.2	156.1	156.2	-142.70		216.0	-5,431.9	108.2	-93.8	201.96	0.536	Level 1
12,600.0	7,065.1	12,696.2	7,150.9	158.9	159.0	-142.62		216.0	-5,531.9	108.0	-97.9	205.85	0.525	Level 1
12,700.0	7,065.0	12,796.2	7,150.6	161.7	161.8	-142.54		216.0	-5,631.9	107.8	-102.0	209.74	0.514	Level 1
12,800.0	7,064.9	12,896.2	7,150.3	164.5	164.6	-142.46		216.0	-5,731.9	107.6	-106.1	213.65	0.504	Level 1
12,900.0	7,064.9	12,996.2	7,149.9	167.3	167.4	-142.38		216.0	-5,831.9	107.4	-110.2	217.57	0.494	Level 1
13,000.0	7,064.8	13,096.2	7,149.6	170.1	170.2	-142.30		216.0	-5,931.9	107.2	-114.3	221.51	0.484	Level 1
13,100.0	7,064.7	13,196.1	7,149.3	172.9	172.9	-142.22		216.0	-6,031.9	107.0	-118.4	225.45	0.475	Level 1
13,200.0	7,064.7	13,296.1	7,149.0	175.7	175.7	-142.14		216.0	-6,131.9	106.8	-122.6	229.41	0.466	Level 1
13,300.0	7,064.6	13,396.1	7,148.7	178.5	178.5	-142.06		216.0	-6,231.9	106.6	-126.8	233.38	0.457	Level 1
13,400.0	7,064.5	13,496.1	7,148.4	181.3	181.3	-141.98		216.0	-6,331.9	106.4	-130.9	237.37	0.448	Level 1
13,500.0	7,064.5	13,596.1	7,148.1	184.1	184.1	-141.89		216.0	-6,431.9	106.2	-135.1	241.36	0.440	Level 1
13,600.0	7,064.4	13,696.1	7,147.7	186.9	186.9	-141.81		216.0	-6,531.9	106.1	-139.3	245.37	0.432	Level 1
13,700.0	7,064.3	13,796.1	7,147.4	189.7	189.7	-141.73		216.0	-6,631.9	105.9	-143.5	249.40	0.424	Level 1
13,800.0	7,064.2	13,896.1	7,147.1	192.5	192.5	-141.65		216.0	-6,731.9	105.7	-147.8	253.43	0.417	Level 1
13,900.0	7,064.2	13,996.1	7,146.8	195.3	195.3	-141.57		216.0	-6,831.8	105.5	-152.0	257.48	0.410	Level 1
14,000.0	7,064.1	14,096.1	7,146.5	198.1	198.1	-141.48		216.0	-6,931.8	105.3	-156.2	261.54	0.403	Level 1
14,100.0	7,064.0	14,196.1	7,146.2	200.9	200.9	-141.40		216.0	-7,031.8	105.1	-160.5	265.62	0.396	Level 1
14,157.0	7,064.0	14,253.0	7,146.0	202.5	202.5	-141.35		216.0	-7,088.7	105.0	-162.9	267.94	0.392	Level 1, ES, SF

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	29.1	0.0	29.1				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	0.00	29.1	0.0	29.1	28.9	0.22	129.683	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	0.00	29.1	0.0	29.1	28.5	0.67	43.228	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	0.00	29.1	0.0	29.1	28.0	1.12	25.937	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	0.00	29.1	0.0	29.1	27.6	1.57	18.526	
500.0	500.0	500.0	500.0	1.0	1.0	0.00	0.00	29.1	0.0	29.1	27.1	2.02	14.409	
600.0	600.0	600.0	600.0	1.2	1.2	0.00	0.00	29.1	0.0	29.1	26.7	2.47	11.789 CC, ES	
700.0	700.0	699.0	699.0	1.5	1.5	1.30	30.7	30.7	0.7	30.7	27.8	2.92	10.531	
800.0	800.0	797.8	797.7	1.7	1.7	4.50	35.4	35.4	2.8	35.6	32.2	3.37	10.566	
900.0	900.0	896.2	895.7	1.9	1.9	8.24	43.1	43.1	6.2	43.8	40.0	3.82	11.451	
1,000.0	1,000.0	993.8	992.6	2.1	2.2	11.58	53.8	53.8	11.0	55.4	51.1	4.29	12.910	
1,100.0	1,100.0	1,092.9	1,090.7	2.4	2.4	-33.89	66.4	66.4	16.7	67.7	63.0	4.73	14.319	
1,200.0	1,199.8	1,192.4	1,189.3	2.6	2.7	-34.02	79.1	79.1	22.3	77.1	71.9	5.17	14.903	
1,300.0	1,299.5	1,292.2	1,288.0	2.8	3.0	-35.48	91.9	91.9	28.0	83.7	78.0	5.63	14.859	
1,400.0	1,398.8	1,392.0	1,386.9	3.0	3.3	-37.72	104.6	104.6	33.7	88.3	82.2	6.11	14.460	
1,500.0	1,498.2	1,491.9	1,485.8	3.3	3.7	-39.78	117.3	117.3	39.4	93.1	86.5	6.60	14.098	
1,600.0	1,597.6	1,591.7	1,584.6	3.6	4.0	-41.63	130.1	130.1	45.1	97.9	90.8	7.11	13.781	
1,700.0	1,696.9	1,691.5	1,683.5	3.8	4.3	-43.31	142.8	142.8	50.8	102.9	95.2	7.62	13.500	
1,800.0	1,796.3	1,791.4	1,782.3	4.1	4.6	-44.84	155.5	155.5	56.5	107.9	99.7	8.14	13.251	
1,900.0	1,895.7	1,891.2	1,881.2	4.4	4.9	-46.23	168.2	168.2	62.2	113.0	104.3	8.67	13.027	
2,000.0	1,995.0	1,991.0	1,980.0	4.7	5.3	-47.49	181.0	181.0	67.9	118.1	108.9	9.21	12.826	
2,100.0	2,094.4	2,090.9	2,078.9	4.9	5.6	-48.66	193.7	193.7	73.6	123.3	113.6	9.75	12.644	
2,200.0	2,193.8	2,190.7	2,177.7	5.2	5.9	-49.72	206.4	206.4	79.3	128.6	118.3	10.30	12.480	
2,300.0	2,293.2	2,290.6	2,276.6	5.5	6.3	-50.71	219.2	219.2	84.9	133.9	123.0	10.86	12.330	
2,400.0	2,392.5	2,390.4	2,375.5	5.8	6.6	-51.61	231.9	231.9	90.6	139.2	127.8	11.42	12.192	
2,500.0	2,491.9	2,490.2	2,474.3	6.1	6.9	-52.46	244.6	244.6	96.3	144.5	132.6	11.98	12.067	
2,600.0	2,591.3	2,590.1	2,573.2	6.4	7.3	-53.24	257.4	257.4	102.0	149.9	137.4	12.54	11.952	
2,700.0	2,690.6	2,689.9	2,672.0	6.7	7.6	-53.96	270.1	270.1	107.7	155.3	142.2	13.11	11.845	
2,800.0	2,790.0	2,789.7	2,770.9	7.0	7.9	-54.64	282.8	282.8	113.4	160.8	147.1	13.69	11.747	
2,900.0	2,889.4	2,889.6	2,869.7	7.3	8.3	-55.28	295.6	295.6	119.1	166.2	152.0	14.26	11.656	
3,000.0	2,988.7	2,989.4	2,968.6	7.6	8.6	-55.87	308.3	308.3	124.8	171.7	156.9	14.84	11.572	
3,100.0	3,088.1	3,089.2	3,067.4	7.9	8.9	-56.42	321.0	321.0	130.5	177.2	161.8	15.42	11.493	
3,200.0	3,187.5	3,189.1	3,166.3	8.2	9.3	-56.95	333.7	333.7	136.2	182.7	166.7	16.00	11.420	
3,300.0	3,286.8	3,288.9	3,265.2	8.5	9.6	-57.44	346.5	346.5	141.9	188.2	171.6	16.58	11.352	
3,400.0	3,386.2	3,388.7	3,364.0	8.8	9.9	-57.90	359.2	359.2	147.5	193.8	176.6	17.17	11.288	
3,500.0	3,485.6	3,488.6	3,462.9	9.1	10.3	-58.34	371.9	371.9	153.2	199.3	181.6	17.75	11.228	
3,600.0	3,585.0	3,588.4	3,561.7	9.4	10.6	-58.76	384.7	384.7	158.9	204.9	186.5	18.34	11.171	
3,700.0	3,684.3	3,688.2	3,660.6	9.7	11.0	-59.15	397.4	397.4	164.6	210.4	191.5	18.93	11.118	
3,800.0	3,783.7	3,788.1	3,759.4	10.0	11.3	-59.52	410.1	410.1	170.3	216.0	196.5	19.52	11.068	
3,900.0	3,883.1	3,887.9	3,858.3	10.3	11.6	-59.88	422.9	422.9	176.0	221.6	201.5	20.11	11.021	
4,000.0	3,982.4	3,987.7	3,957.2	10.6	12.0	-60.21	435.6	435.6	181.7	227.2	206.5	20.70	10.977	
4,100.0	4,081.8	4,087.6	4,056.0	10.9	12.3	-60.53	448.3	448.3	187.4	232.8	211.5	21.29	10.934	
4,200.0	4,181.2	4,187.4	4,154.9	11.2	12.6	-60.84	461.1	461.1	193.1	238.4	216.5	21.88	10.895	
4,300.0	4,280.5	4,287.2	4,253.7	11.5	13.0	-61.13	473.8	473.8	198.8	244.0	221.5	22.48	10.857	
4,400.0	4,379.9	4,387.1	4,352.6	11.8	13.3	-61.41	486.5	486.5	204.5	249.6	226.6	23.07	10.821	
4,500.0	4,479.3	4,486.9	4,451.4	12.1	13.7	-61.67	499.3	499.3	210.2	255.3	231.6	23.67	10.787	
4,600.0	4,578.6	4,586.7	4,550.3	12.4	14.0	-61.93	512.0	512.0	215.8	260.9	236.6	24.26	10.754	
4,700.0	4,678.0	4,686.6	4,649.1	12.7	14.3	-62.17	524.7	524.7	221.5	266.5	241.7	24.86	10.723	
4,800.0	4,777.6	4,786.4	4,748.0	12.9	14.7	-62.19	537.4	537.4	227.2	273.0	247.6	25.38	10.755	
4,900.0	4,877.4	4,886.0	4,846.6	13.1	15.0	-61.62	550.1	550.1	232.9	281.1	255.3	25.79	10.897	
5,000.0	4,977.3	4,985.3	4,944.9	13.3	15.3	-60.52	562.8	562.8	238.6	290.9	264.8	26.13	11.135	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,077.3	5,084.3	5,043.0	13.4	15.7	-11.69		575.4	244.2	302.1	275.7	26.41	11.441	
5,200.0	5,177.3	5,183.3	5,141.0	13.6	16.0	-10.20		588.1	249.9	313.6	286.5	27.05	11.594	
5,300.0	5,277.3	5,282.4	5,239.1	13.8	16.4	-8.82		600.7	255.5	325.3	297.6	27.68	11.750	
5,400.0	5,377.3	5,381.4	5,337.1	14.0	16.7	-7.53		613.3	261.1	337.1	308.8	28.31	11.908	
5,500.0	5,477.3	5,480.4	5,435.2	14.2	17.0	-6.33		625.9	266.8	349.1	320.2	28.93	12.067	
5,600.0	5,577.3	5,579.4	5,533.2	14.4	17.4	-5.21		638.6	272.4	361.3	331.7	29.55	12.226	
5,700.0	5,677.3	5,678.4	5,631.3	14.6	17.7	-4.17		651.2	278.1	373.5	343.4	30.16	12.386	
5,800.0	5,777.3	5,777.5	5,729.3	14.7	18.0	-3.19		663.8	283.7	385.9	355.1	30.76	12.544	
5,900.0	5,877.3	5,876.5	5,827.4	14.9	18.4	-2.27		676.4	289.4	398.4	367.0	31.37	12.702	
6,000.0	5,977.3	5,979.3	5,929.3	15.1	18.7	-1.38		689.4	295.2	410.9	378.9	31.97	12.854	
6,100.0	6,077.3	6,093.8	6,043.0	15.3	19.0	-0.64		700.9	300.3	420.8	388.3	32.50	12.946	
6,200.0	6,177.3	6,209.1	6,158.0	15.5	19.2	-0.19		708.2	303.6	427.1	394.2	32.97	12.955	
6,300.0	6,277.3	6,324.9	6,273.7	15.7	19.4	-0.01		711.3	305.0	429.8	396.5	33.38	12.878	
6,400.0	6,377.2	6,428.4	6,377.2	15.9	19.5	90.46		711.4	305.0	429.9	398.9	31.01	13.866	
6,500.0	6,475.9	6,528.4	6,477.2	15.9	19.7	92.26		711.4	302.7	430.3	399.2	31.10	13.834	
6,600.0	6,571.6	6,630.6	6,578.3	16.0	19.8	94.19		711.4	288.0	431.1	400.0	31.09	13.867	
6,700.0	6,662.7	6,734.9	6,678.4	16.0	19.8	96.05		711.4	259.2	432.4	401.3	31.04	13.928	
6,800.0	6,747.8	6,841.4	6,775.6	16.0	19.8	97.82		711.4	216.0	434.0	403.0	31.05	13.976	
6,900.0	6,825.2	6,949.9	6,867.6	16.0	19.7	99.45		711.4	158.5	435.9	404.7	31.23	13.958	
7,000.0	6,893.7	7,060.6	6,952.0	16.1	19.7	100.92		711.4	87.1	437.9	406.2	31.73	13.802	
7,100.0	6,952.2	7,173.1	7,026.4	16.7	19.7	102.18		711.4	2.8	439.9	407.2	32.70	13.451	
7,200.0	6,999.6	7,287.4	7,088.4	17.6	19.7	103.21		711.4	-93.0	441.7	407.4	34.28	12.884	
7,300.0	7,035.0	7,403.0	7,135.9	18.9	20.1	104.00		711.4	-198.3	443.1	406.6	36.55	12.123	
7,400.0	7,058.0	7,519.6	7,167.2	20.5	21.4	104.50		711.4	-310.6	444.1	404.6	39.50	11.243	
7,500.0	7,068.1	7,636.8	7,181.1	22.3	23.3	104.73		711.4	-426.8	444.5	401.5	43.01	10.336	
7,600.0	7,068.6	7,742.2	7,181.4	24.3	25.3	104.70		711.4	-532.2	444.5	397.6	46.84	9.488	
7,700.0	7,068.5	7,842.2	7,180.8	26.4	27.4	104.64		711.4	-632.2	444.3	393.4	50.92	8.727	
7,800.0	7,068.4	7,942.2	7,180.3	28.7	29.5	104.59		711.4	-732.2	444.2	389.0	55.23	8.043	
7,900.0	7,068.4	8,042.2	7,179.8	31.0	31.8	104.53		711.4	-832.2	444.1	384.4	59.73	7.435	
8,000.0	7,068.3	8,142.2	7,179.3	33.4	34.2	104.47		711.4	-932.2	444.0	379.6	64.39	6.896	
8,100.0	7,068.2	8,242.2	7,178.7	35.9	36.6	104.42		711.4	-1,032.2	443.9	374.7	69.16	6.418	
8,200.0	7,068.2	8,342.2	7,178.2	38.4	39.0	104.36		711.4	-1,132.2	443.8	369.7	74.03	5.995	
8,300.0	7,068.1	8,442.2	7,177.7	40.9	41.5	104.30		711.4	-1,232.2	443.7	364.7	78.98	5.617	
8,400.0	7,068.0	8,542.2	7,177.2	43.5	44.1	104.25		711.4	-1,332.2	443.6	359.6	84.00	5.280	
8,500.0	7,067.9	8,642.2	7,176.6	46.1	46.6	104.19		711.4	-1,432.2	443.4	354.4	89.07	4.978	
8,600.0	7,067.9	8,742.2	7,176.1	48.7	49.2	104.13		711.4	-1,532.2	443.3	349.1	94.19	4.707	
8,700.0	7,067.8	8,842.2	7,175.6	51.4	51.9	104.08		711.4	-1,632.2	443.2	343.9	99.35	4.461	
8,800.0	7,067.7	8,942.2	7,175.1	54.0	54.5	104.02		711.4	-1,732.2	443.1	338.6	104.55	4.238	
8,900.0	7,067.7	9,042.1	7,174.6	56.7	57.1	103.96		711.4	-1,832.2	443.0	333.2	109.77	4.036	
9,000.0	7,067.6	9,142.1	7,174.0	59.4	59.8	103.90		711.4	-1,932.1	442.9	327.9	115.02	3.850	
9,100.0	7,067.5	9,242.1	7,173.5	62.1	62.5	103.85		711.4	-2,032.1	442.8	322.5	120.30	3.681	
9,200.0	7,067.5	9,342.1	7,173.0	64.8	65.2	103.79		711.4	-2,132.1	442.7	317.1	125.59	3.525	
9,300.0	7,067.4	9,442.1	7,172.5	67.5	67.9	103.73		711.4	-2,232.1	442.6	311.7	130.90	3.381	
9,400.0	7,067.3	9,542.1	7,171.9	70.3	70.6	103.68		711.4	-2,332.1	442.5	306.2	136.23	3.248	
9,500.0	7,067.3	9,642.1	7,171.4	73.0	73.3	103.62		711.4	-2,432.1	442.3	300.8	141.58	3.124	
9,600.0	7,067.2	9,742.1	7,170.9	75.7	76.0	103.56		711.4	-2,532.1	442.2	295.3	146.94	3.010	
9,700.0	7,067.1	9,842.1	7,170.4	78.5	78.7	103.51		711.4	-2,632.1	442.1	289.8	152.31	2.903	
9,800.0	7,067.0	9,942.1	7,169.8	81.2	81.5	103.45		711.4	-2,732.1	442.0	284.3	157.69	2.803	
9,900.0	7,067.0	10,042.1	7,169.3	84.0	84.2	103.39		711.4	-2,832.1	441.9	278.8	163.08	2.710	
10,000.0	7,066.9	10,142.1	7,168.8	86.7	87.0	103.33		711.4	-2,932.1	441.8	273.3	168.48	2.622	
10,100.0	7,066.8	10,242.1	7,168.3	89.5	89.7	103.28		711.4	-3,032.1	441.7	267.8	173.89	2.540	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32X-314 - Wellbore #1 - Plan #1 (4-14-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	7,066.8	10,342.1	7,167.7	92.2	92.5	103.22	103.22	711.4	-3,132.1	441.6	262.3	179.31	2.463	
10,300.0	7,066.7	10,442.1	7,167.2	95.0	95.2	103.16	103.16	711.4	-3,232.1	441.5	256.8	184.74	2.390	
10,400.0	7,066.6	10,542.1	7,166.7	97.7	98.0	103.10	103.10	711.4	-3,332.1	441.4	251.2	190.17	2.321	
10,500.0	7,066.6	10,642.1	7,166.2	100.5	100.7	103.05	103.05	711.4	-3,432.1	441.3	245.7	195.61	2.256	
10,600.0	7,066.5	10,742.1	7,165.7	103.3	103.5	102.99	102.99	711.4	-3,532.1	441.2	240.1	201.06	2.194	
10,700.0	7,066.4	10,842.1	7,165.1	106.1	106.2	102.93	102.93	711.4	-3,632.1	441.1	234.6	206.51	2.136	
10,800.0	7,066.3	10,942.1	7,164.6	108.8	109.0	102.87	102.87	711.4	-3,732.1	441.0	229.0	211.97	2.080	
10,900.0	7,066.3	11,042.1	7,164.1	111.6	111.8	102.82	102.82	711.4	-3,832.1	440.9	223.5	217.43	2.028	
11,000.0	7,066.2	11,142.1	7,163.6	114.4	114.5	102.76	102.76	711.4	-3,932.1	440.8	217.9	222.90	1.977	
11,100.0	7,066.1	11,242.1	7,163.0	117.2	117.3	102.70	102.70	711.4	-4,032.1	440.7	212.3	228.38	1.930	
11,200.0	7,066.1	11,342.1	7,162.5	119.9	120.1	102.64	102.64	711.4	-4,132.1	440.6	206.7	233.86	1.884	
11,300.0	7,066.0	11,442.1	7,162.0	122.7	122.9	102.59	102.59	711.4	-4,232.1	440.5	201.1	239.34	1.840	
11,400.0	7,065.9	11,542.1	7,161.5	125.5	125.6	102.53	102.53	711.4	-4,332.1	440.4	195.6	244.83	1.799	
11,500.0	7,065.9	11,642.1	7,160.9	128.3	128.4	102.47	102.47	711.4	-4,432.1	440.3	190.0	250.32	1.759	
11,600.0	7,065.8	11,742.1	7,160.4	131.1	131.2	102.41	102.41	711.4	-4,532.1	440.2	184.4	255.82	1.721	
11,700.0	7,065.7	11,842.1	7,159.9	133.8	134.0	102.36	102.36	711.4	-4,632.1	440.1	178.8	261.32	1.684	
11,800.0	7,065.6	11,942.1	7,159.4	136.6	136.8	102.30	102.30	711.4	-4,732.1	440.0	173.2	266.83	1.649	
11,900.0	7,065.6	12,042.1	7,158.8	139.4	139.5	102.24	102.24	711.4	-4,832.1	439.9	167.6	272.33	1.615	
12,000.0	7,065.5	12,142.1	7,158.3	142.2	142.3	102.18	102.18	711.4	-4,932.1	439.8	162.0	277.85	1.583	
12,100.0	7,065.4	12,242.1	7,157.8	145.0	145.1	102.13	102.13	711.4	-5,032.1	439.7	156.3	283.36	1.552	
12,200.0	7,065.4	12,342.1	7,157.3	147.8	147.9	102.07	102.07	711.4	-5,132.1	439.6	150.7	288.88	1.522	
12,300.0	7,065.3	12,442.1	7,156.7	150.6	150.7	102.01	102.01	711.4	-5,232.1	439.5	145.1	294.40	1.493 Level 3	
12,400.0	7,065.2	12,542.1	7,156.2	153.4	153.5	101.95	101.95	711.4	-5,332.1	439.4	139.5	299.93	1.465 Level 3	
12,500.0	7,065.2	12,642.1	7,155.7	156.1	156.2	101.89	101.89	711.4	-5,432.1	439.3	133.9	305.46	1.438 Level 3	
12,600.0	7,065.1	12,742.1	7,155.2	158.9	159.0	101.84	101.84	711.4	-5,532.1	439.2	128.2	310.99	1.412 Level 3	
12,700.0	7,065.0	12,842.1	7,154.7	161.7	161.8	101.78	101.78	711.4	-5,632.1	439.1	122.6	316.52	1.387 Level 3	
12,800.0	7,064.9	12,942.1	7,154.1	164.5	164.6	101.72	101.72	711.4	-5,732.1	439.0	117.0	322.06	1.363 Level 3	
12,900.0	7,064.9	13,042.1	7,153.6	167.3	167.4	101.66	101.66	711.4	-5,832.1	438.9	111.3	327.60	1.340 Level 3	
13,000.0	7,064.8	13,142.1	7,153.1	170.1	170.2	101.60	101.60	711.4	-5,932.1	438.8	105.7	333.15	1.317 Level 3	
13,100.0	7,064.7	13,242.1	7,152.6	172.9	173.0	101.55	101.55	711.4	-6,032.1	438.7	100.1	338.69	1.295 Level 3	
13,200.0	7,064.7	13,342.1	7,152.0	175.7	175.8	101.49	101.49	711.4	-6,132.0	438.7	94.4	344.24	1.274 Level 3	
13,300.0	7,064.6	13,442.1	7,151.5	178.5	178.6	101.43	101.43	711.4	-6,232.0	438.6	88.8	349.79	1.254 Level 3	
13,400.0	7,064.5	13,542.1	7,151.0	181.3	181.4	101.37	101.37	711.4	-6,332.0	438.5	83.1	355.35	1.234 Level 2	
13,500.0	7,064.5	13,642.1	7,150.5	184.1	184.1	101.31	101.31	711.4	-6,432.0	438.4	77.5	360.90	1.215 Level 2	
13,600.0	7,064.4	13,742.1	7,149.9	186.9	186.9	101.26	101.26	711.4	-6,532.0	438.3	71.9	366.46	1.196 Level 2	
13,700.0	7,064.3	13,842.1	7,149.4	189.7	189.7	101.20	101.20	711.4	-6,632.0	438.2	66.2	372.02	1.178 Level 2	
13,800.0	7,064.2	13,942.1	7,148.9	192.5	192.5	101.14	101.14	711.4	-6,732.0	438.1	60.5	377.59	1.160 Level 2	
13,900.0	7,064.2	14,042.1	7,148.4	195.3	195.3	101.08	101.08	711.4	-6,832.0	438.0	54.9	383.15	1.143 Level 2	
14,000.0	7,064.1	14,142.1	7,147.8	198.1	198.1	101.02	101.02	711.4	-6,932.0	438.0	49.2	388.72	1.127 Level 2	
14,100.0	7,064.0	14,242.1	7,147.3	200.9	200.9	100.96	100.96	711.4	-7,032.0	437.9	43.6	394.29	1.111 Level 2	
14,157.0	7,064.0	14,299.1	7,147.0	202.5	202.5	100.93	100.93	711.4	-7,089.1	437.8	40.4	397.47	1.102 Level 2, SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-180.00	-61.9	0.0	61.9				
100.0	100.0	100.0	100.0	0.1	0.1	-180.00	-180.00	-61.9	0.0	61.9	61.7	0.22	275.575	
200.0	200.0	200.0	200.0	0.3	0.3	-180.00	-180.00	-61.9	0.0	61.9	61.3	0.67	91.858	
300.0	300.0	300.0	300.0	0.6	0.6	-180.00	-180.00	-61.9	0.0	61.9	60.8	1.12	55.115	
400.0	400.0	400.0	400.0	0.8	0.8	-180.00	-180.00	-61.9	0.0	61.9	60.4	1.57	39.368	
500.0	500.0	500.0	500.0	1.0	1.0	-180.00	-180.00	-61.9	0.0	61.9	59.9	2.02	30.619	
600.0	600.0	600.0	600.0	1.2	1.2	-180.00	-180.00	-61.9	0.0	61.9	59.5	2.47	25.052	
700.0	700.0	700.0	700.0	1.5	1.5	-180.00	-180.00	-61.9	0.0	61.9	59.0	2.92	21.198	
800.0	800.0	800.0	800.0	1.7	1.7	-180.00	-180.00	-61.9	0.0	61.9	58.6	3.37	18.372	
900.0	900.0	900.0	900.0	1.9	1.9	-180.00	-180.00	-61.9	0.0	61.9	58.1	3.82	16.210	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-180.00	-180.00	-61.9	0.0	61.9	57.7	4.27	14.504 CC, ES	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	133.85	133.85	-61.9	0.0	63.1	58.4	4.72	13.388	
1,200.0	1,199.8	1,199.8	1,199.8	2.6	2.6	137.03	137.03	-61.9	0.0	66.9	61.7	5.16	12.965	
1,300.0	1,299.5	1,297.6	1,297.5	2.8	2.8	140.63	140.63	-63.3	0.9	74.8	69.2	5.57	13.412	
1,400.0	1,398.8	1,394.7	1,394.5	3.0	3.0	142.98	142.98	-67.5	3.6	87.3	81.3	5.98	14.587	
1,500.0	1,498.2	1,491.2	1,490.7	3.3	3.1	143.48	143.48	-74.3	8.1	102.4	96.0	6.41	15.975	
1,600.0	1,597.6	1,587.9	1,586.7	3.6	3.3	142.79	142.79	-83.8	14.2	119.7	112.9	6.85	17.477	
1,700.0	1,696.9	1,686.2	1,684.3	3.8	3.6	142.03	142.03	-94.1	20.9	137.7	130.4	7.30	18.850	
1,800.0	1,796.3	1,784.6	1,781.9	4.1	3.8	141.45	141.45	-104.4	27.6	155.7	147.9	7.77	20.038	
1,900.0	1,895.7	1,883.0	1,879.5	4.4	4.1	140.99	140.99	-114.6	34.3	173.7	165.4	8.24	21.068	
2,000.0	1,995.0	1,981.3	1,977.1	4.7	4.3	140.62	140.62	-124.9	41.0	191.7	183.0	8.73	21.968	
2,100.0	2,094.4	2,079.7	2,074.7	4.9	4.6	140.30	140.30	-135.2	47.7	209.7	200.5	9.22	22.756	
2,200.0	2,193.8	2,178.0	2,172.3	5.2	4.9	140.04	140.04	-145.5	54.4	227.7	218.0	9.71	23.453	
2,300.0	2,293.2	2,276.4	2,269.8	5.5	5.2	139.82	139.82	-155.8	61.1	245.7	235.5	10.21	24.072	
2,400.0	2,392.5	2,374.8	2,367.4	5.8	5.5	139.63	139.63	-166.1	67.8	263.8	253.1	10.71	24.623	
2,500.0	2,491.9	2,473.1	2,465.0	6.1	5.7	139.46	139.46	-176.4	74.6	281.8	270.6	11.22	25.117	
2,600.0	2,591.3	2,571.5	2,562.6	6.4	6.0	139.31	139.31	-186.6	81.3	299.8	288.1	11.73	25.562	
2,700.0	2,690.6	2,669.8	2,660.2	6.7	6.3	139.18	139.18	-196.9	88.0	317.9	305.6	12.24	25.963	
2,800.0	2,790.0	2,768.2	2,757.8	7.0	6.6	139.06	139.06	-207.2	94.7	335.9	323.1	12.76	26.328	
2,900.0	2,889.4	2,866.5	2,855.4	7.3	6.9	138.96	138.96	-217.5	101.4	353.9	340.7	13.28	26.660	
3,000.0	2,988.7	2,964.9	2,953.0	7.6	7.3	138.86	138.86	-227.8	108.1	372.0	358.2	13.79	26.964	
3,100.0	3,088.1	3,063.3	3,050.6	7.9	7.6	138.78	138.78	-238.1	114.8	390.0	375.7	14.32	27.243	
3,200.0	3,187.5	3,161.6	3,148.1	8.2	7.9	138.70	138.70	-248.4	121.5	408.0	393.2	14.84	27.499	
3,300.0	3,286.8	3,260.0	3,245.7	8.5	8.2	138.63	138.63	-258.6	128.2	426.1	410.7	15.36	27.735	
3,400.0	3,386.2	3,358.3	3,343.3	8.8	8.5	138.56	138.56	-268.9	134.9	444.1	428.2	15.89	27.954	
3,500.0	3,485.6	3,456.7	3,440.9	9.1	8.8	138.50	138.50	-279.2	141.6	462.2	445.7	16.41	28.157	
3,600.0	3,585.0	3,555.1	3,538.5	9.4	9.1	138.44	138.44	-289.5	148.3	480.2	463.3	16.94	28.345	
3,700.0	3,684.3	3,653.4	3,636.1	9.7	9.4	138.39	138.39	-299.8	155.0	498.2	480.8	17.47	28.521	
3,800.0	3,783.7	3,751.8	3,733.7	10.0	9.7	138.34	138.34	-310.1	161.7	516.3	498.3	18.00	28.685	
3,900.0	3,883.1	3,850.1	3,831.3	10.3	10.1	138.30	138.30	-320.4	168.4	534.3	515.8	18.53	28.839	
4,000.0	3,982.4	3,948.5	3,928.9	10.6	10.4	138.26	138.26	-330.7	175.1	552.4	533.3	19.06	28.983	
4,100.0	4,081.8	4,046.8	4,026.4	10.9	10.7	138.22	138.22	-340.9	181.8	570.4	550.8	19.59	29.118	
4,200.0	4,181.2	4,145.2	4,124.0	11.2	11.0	138.18	138.18	-351.2	188.5	588.5	568.3	20.12	29.245	
4,300.0	4,280.5	4,243.6	4,221.6	11.5	11.3	138.14	138.14	-361.5	195.2	606.5	585.8	20.65	29.365	
4,400.0	4,379.9	4,341.9	4,319.2	11.8	11.7	138.11	138.11	-371.8	201.9	624.5	603.4	21.19	29.478	
4,500.0	4,479.3	4,440.3	4,416.8	12.1	12.0	138.08	138.08	-382.1	208.6	642.6	620.9	21.72	29.585	
4,600.0	4,578.6	4,538.6	4,514.4	12.4	12.3	138.05	138.05	-392.4	215.3	660.6	638.4	22.25	29.686	
4,700.0	4,678.0	4,637.0	4,612.0	12.7	12.6	138.02	138.02	-402.7	222.0	678.7	655.9	22.79	29.782	
4,800.0	4,777.6	4,735.6	4,709.8	12.9	12.9	138.13	138.13	-413.0	228.7	695.5	672.1	23.32	29.822	
4,900.0	4,877.4	4,834.5	4,807.9	13.1	13.3	138.01	138.01	-423.3	235.5	709.7	685.9	23.79	29.829	
5,000.0	4,977.3	4,933.6	4,906.3	13.3	13.6	137.69	137.69	-433.7	242.2	721.4	697.1	24.23	29.769	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-214 - Wellbore #1 - Plan #3 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.0	5,077.3	5,032.8	5,004.7	13.4	13.9	-175.58	-444.1	249.0	731.3	705.9	25.45	28.730		
5,200.0	5,177.3	5,132.0	5,103.1	13.6	14.2	-176.17	-454.4	255.7	741.3	715.3	25.95	28.567		
5,300.0	5,277.3	5,231.2	5,201.6	13.8	14.6	-176.74	-464.8	262.5	751.3	724.9	26.45	28.409		
5,400.0	5,377.3	5,330.5	5,300.0	14.0	14.9	-177.30	-475.2	269.3	761.5	734.5	26.95	28.257		
5,500.0	5,477.3	5,429.7	5,398.5	14.2	15.2	-177.84	-485.6	276.0	771.6	744.2	27.45	28.109		
5,600.0	5,577.3	5,528.9	5,496.9	14.4	15.5	-178.36	-495.9	282.8	781.9	753.9	27.96	27.967		
5,700.0	5,677.3	5,628.1	5,595.4	14.6	15.9	-178.88	-506.3	289.5	792.2	763.7	28.47	27.830		
5,800.0	5,777.3	5,743.1	5,709.5	14.7	16.2	-179.42	-517.7	296.9	802.1	773.1	28.98	27.681		
5,900.0	5,877.3	5,873.4	5,839.4	14.9	16.4	-179.83	-526.3	302.5	808.7	779.2	29.44	27.464		
6,000.0	5,977.3	6,004.3	5,970.3	15.1	16.7	-179.99	-529.9	304.9	811.4	781.6	29.87	27.163		
6,100.0	6,077.3	6,111.4	6,077.3	15.3	16.8	-180.00	-530.0	305.0	811.5	781.3	30.25	26.827		
6,200.0	6,177.3	6,211.4	6,177.3	15.5	17.0	-180.00	-530.0	305.0	811.5	780.9	30.61	26.514		
6,300.0	6,277.3	6,311.4	6,277.3	15.7	17.1	-180.00	-530.0	305.0	811.5	780.6	30.97	26.207		
6,400.0	6,377.2	6,411.4	6,377.2	15.9	17.3	-90.00	-530.0	301.6	811.5	781.3	30.21	26.866		
6,500.0	6,475.9	6,511.4	6,475.9	15.9	17.3	-90.00	-530.0	285.6	811.5	781.2	30.39	26.706		
6,600.0	6,571.6	6,611.4	6,571.6	16.0	17.4	-90.01	-530.0	256.9	811.5	781.1	30.47	26.631		
6,700.0	6,662.7	6,711.4	6,662.8	16.0	17.4	-90.01	-530.0	216.0	811.5	781.0	30.53	26.581		
6,800.0	6,747.8	6,811.4	6,747.8	16.0	17.3	-90.01	-530.0	163.5	811.5	780.9	30.66	26.465		
6,900.0	6,825.2	6,911.5	6,825.3	16.0	17.3	-90.01	-530.0	100.4	811.5	780.5	31.02	26.164		
7,000.0	6,893.7	7,011.5	6,893.9	16.1	17.3	-90.01	-530.0	27.6	811.5	779.8	31.75	25.561		
7,100.0	6,952.2	7,111.5	6,952.4	16.7	17.2	-90.01	-530.0	-53.4	811.5	778.5	33.01	24.582		
7,200.0	6,999.6	7,211.5	6,999.8	17.6	17.3	-90.02	-530.0	-141.4	811.5	776.6	34.91	23.245		
7,300.0	7,035.0	7,311.6	7,035.3	18.9	18.6	-90.02	-530.0	-234.9	811.5	774.1	37.47	21.661		
7,400.0	7,058.0	7,411.6	7,058.3	20.5	20.2	-90.02	-530.0	-332.1	811.5	770.9	40.61	19.983		
7,500.0	7,068.1	7,511.6	7,068.4	22.3	22.1	-90.02	-530.0	-431.6	811.5	767.3	44.23	18.350		
7,600.0	7,068.6	7,611.6	7,068.7	24.3	24.1	-90.01	-530.0	-531.6	811.5	763.4	48.19	16.841		
7,700.0	7,068.5	7,711.6	7,068.5	26.4	26.3	-90.00	-530.0	-631.6	811.5	759.1	52.44	15.474		
7,800.0	7,068.4	7,811.6	7,068.3	28.7	28.5	-89.99	-530.0	-731.6	811.5	754.6	56.94	14.254		
7,900.0	7,068.4	7,911.6	7,068.1	31.0	30.9	-89.98	-530.0	-831.6	811.5	749.9	61.61	13.172		
8,000.0	7,068.3	8,011.6	7,067.9	33.4	33.3	-89.97	-530.0	-931.6	811.5	745.1	66.44	12.216		
8,100.0	7,068.2	8,111.6	7,067.7	35.9	35.7	-89.96	-530.0	-1,031.6	811.5	740.2	71.37	11.370		
8,200.0	7,068.2	8,211.6	7,067.5	38.4	38.3	-89.95	-530.0	-1,131.6	811.5	735.1	76.40	10.622		
8,300.0	7,068.1	8,311.6	7,067.3	40.9	40.8	-89.94	-530.0	-1,231.6	811.5	730.0	81.51	9.956		
8,400.0	7,068.0	8,411.6	7,067.0	43.5	43.4	-89.93	-530.0	-1,331.6	811.5	724.9	86.68	9.362		
8,500.0	7,067.9	8,511.6	7,066.8	46.1	46.0	-89.92	-530.0	-1,431.6	811.5	719.6	91.91	8.830		
8,600.0	7,067.9	8,611.6	7,066.6	48.7	48.6	-89.91	-530.0	-1,531.6	811.6	714.4	97.17	8.352		
8,700.0	7,067.8	8,711.6	7,066.4	51.4	51.3	-89.90	-530.0	-1,631.6	811.6	709.1	102.47	7.920		
8,800.0	7,067.7	8,811.6	7,066.2	54.0	54.0	-89.89	-530.0	-1,731.6	811.6	703.7	107.81	7.528		
8,900.0	7,067.7	8,911.6	7,066.0	56.7	56.6	-89.88	-530.0	-1,831.6	811.6	698.4	113.17	7.171		
9,000.0	7,067.6	9,011.6	7,065.8	59.4	59.3	-89.87	-530.0	-1,931.6	811.6	693.0	118.56	6.845		
9,100.0	7,067.5	9,111.6	7,065.6	62.1	62.0	-89.86	-530.0	-2,031.6	811.6	687.6	123.96	6.547		
9,200.0	7,067.5	9,211.6	7,065.4	64.8	64.7	-89.85	-530.0	-2,131.6	811.6	682.2	129.39	6.272		
9,300.0	7,067.4	9,311.6	7,065.2	67.5	67.5	-89.84	-530.0	-2,231.6	811.6	676.7	134.82	6.019		
9,400.0	7,067.3	9,411.6	7,065.0	70.3	70.2	-89.83	-530.0	-2,331.6	811.6	671.3	140.28	5.785		
9,500.0	7,067.3	9,511.6	7,064.7	73.0	72.9	-89.82	-530.0	-2,431.6	811.6	665.8	145.74	5.568		
9,600.0	7,067.2	9,611.6	7,064.5	75.7	75.7	-89.81	-530.0	-2,531.6	811.6	660.3	151.22	5.367		
9,700.0	7,067.1	9,711.6	7,064.3	78.5	78.4	-89.80	-530.0	-2,631.6	811.6	654.9	156.70	5.179		
9,800.0	7,067.0	9,811.6	7,064.1	81.2	81.1	-89.79	-530.0	-2,731.6	811.6	649.4	162.20	5.004		
9,900.0	7,067.0	9,911.6	7,063.9	84.0	83.9	-89.78	-530.0	-2,831.6	811.6	643.9	167.70	4.839		
10,000.0	7,066.9	10,011.6	7,063.7	86.7	86.6	-89.77	-530.0	-2,931.6	811.6	638.4	173.21	4.685		
10,100.0	7,066.8	10,111.6	7,063.5	89.5	89.4	-89.76	-530.0	-3,031.6	811.6	632.8	178.73	4.541		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-214 - Wellbore #1 - Plan #3 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.0	7,066.8	10,211.6	7,063.3	92.2	92.2	-89.75	-89.75	-530.0	-3,131.6	811.6	627.3	184.25	4.405	
10,300.0	7,066.7	10,311.6	7,063.1	95.0	94.9	-89.74	-89.74	-530.0	-3,231.6	811.6	621.8	189.78	4.276	
10,400.0	7,066.6	10,411.6	7,062.9	97.7	97.7	-89.73	-89.73	-530.0	-3,331.6	811.6	616.3	195.31	4.155	
10,500.0	7,066.6	10,511.6	7,062.6	100.5	100.5	-89.72	-89.72	-530.0	-3,431.6	811.6	610.7	200.84	4.041	
10,600.0	7,066.5	10,611.6	7,062.4	103.3	103.2	-89.71	-89.71	-530.0	-3,531.6	811.6	605.2	206.39	3.932	
10,700.0	7,066.4	10,711.6	7,062.2	106.1	106.0	-89.70	-89.70	-530.0	-3,631.6	811.6	599.6	211.93	3.829	
10,800.0	7,066.3	10,811.6	7,062.0	108.8	108.8	-89.69	-89.69	-530.0	-3,731.6	811.6	594.1	217.48	3.732	
10,900.0	7,066.3	10,911.6	7,061.8	111.6	111.5	-89.68	-89.68	-530.0	-3,831.6	811.6	588.5	223.03	3.639	
11,000.0	7,066.2	11,011.6	7,061.6	114.4	114.3	-89.68	-89.68	-530.0	-3,931.6	811.6	583.0	228.58	3.550	
11,100.0	7,066.1	11,111.6	7,061.4	117.2	117.1	-89.67	-89.67	-530.0	-4,031.6	811.6	577.4	234.14	3.466	
11,200.0	7,066.1	11,211.6	7,061.2	119.9	119.9	-89.66	-89.66	-530.0	-4,131.6	811.6	571.9	239.70	3.386	
11,300.0	7,066.0	11,311.6	7,061.0	122.7	122.7	-89.65	-89.65	-530.0	-4,231.6	811.6	566.3	245.26	3.309	
11,400.0	7,065.9	11,411.6	7,060.8	125.5	125.4	-89.64	-89.64	-530.0	-4,331.6	811.6	560.8	250.83	3.236	
11,500.0	7,065.9	11,511.6	7,060.6	128.3	128.2	-89.63	-89.63	-530.0	-4,431.6	811.6	555.2	256.40	3.165	
11,600.0	7,065.8	11,611.6	7,060.3	131.1	131.0	-89.62	-89.62	-530.0	-4,531.6	811.6	549.6	261.97	3.098	
11,700.0	7,065.7	11,711.6	7,060.1	133.8	133.8	-89.61	-89.61	-530.0	-4,631.6	811.6	544.0	267.54	3.034	
11,800.0	7,065.6	11,811.6	7,059.9	136.6	136.6	-89.60	-89.60	-530.0	-4,731.6	811.6	538.5	273.11	2.972	
11,900.0	7,065.6	11,911.6	7,059.7	139.4	139.4	-89.59	-89.59	-530.0	-4,831.6	811.6	532.9	278.68	2.912	
12,000.0	7,065.5	12,011.6	7,059.5	142.2	142.2	-89.58	-89.58	-530.0	-4,931.6	811.6	527.3	284.26	2.855	
12,100.0	7,065.4	12,111.6	7,059.3	145.0	144.9	-89.57	-89.57	-530.0	-5,031.6	811.6	521.8	289.84	2.800	
12,200.0	7,065.4	12,211.6	7,059.1	147.8	147.7	-89.56	-89.56	-530.0	-5,131.6	811.6	516.2	295.41	2.747	
12,300.0	7,065.3	12,311.6	7,058.9	150.6	150.5	-89.55	-89.55	-530.0	-5,231.6	811.6	510.6	300.99	2.696	
12,400.0	7,065.2	12,411.6	7,058.7	153.4	153.3	-89.54	-89.54	-530.0	-5,331.6	811.6	505.0	306.57	2.647	
12,500.0	7,065.2	12,511.6	7,058.5	156.1	156.1	-89.53	-89.53	-530.0	-5,431.6	811.6	499.4	312.16	2.600	
12,600.0	7,065.1	12,611.6	7,058.2	158.9	158.9	-89.52	-89.52	-530.0	-5,531.6	811.6	493.9	317.74	2.554	
12,700.0	7,065.0	12,711.6	7,058.0	161.7	161.7	-89.51	-89.51	-530.0	-5,631.6	811.6	488.3	323.32	2.510	
12,800.0	7,064.9	12,811.6	7,057.8	164.5	164.5	-89.50	-89.50	-530.0	-5,731.6	811.6	482.7	328.91	2.468	
12,900.0	7,064.9	12,911.6	7,057.6	167.3	167.3	-89.49	-89.49	-530.0	-5,831.6	811.6	477.1	334.50	2.426	
13,000.0	7,064.8	13,011.6	7,057.4	170.1	170.1	-89.48	-89.48	-530.0	-5,931.6	811.6	471.5	340.08	2.386	
13,100.0	7,064.7	13,111.6	7,057.2	172.9	172.9	-89.47	-89.47	-530.0	-6,031.6	811.6	465.9	345.67	2.348	
13,200.0	7,064.7	13,211.6	7,057.0	175.7	175.7	-89.46	-89.46	-530.0	-6,131.6	811.6	460.3	351.26	2.311	
13,300.0	7,064.6	13,311.6	7,056.8	178.5	178.5	-89.45	-89.45	-530.0	-6,231.6	811.6	454.8	356.85	2.274	
13,400.0	7,064.5	13,411.6	7,056.6	181.3	181.2	-89.44	-89.44	-530.0	-6,331.6	811.6	449.2	362.44	2.239	
13,500.0	7,064.5	13,511.6	7,056.4	184.1	184.0	-89.43	-89.43	-530.0	-6,431.6	811.6	443.6	368.03	2.205	
13,600.0	7,064.4	13,611.6	7,056.2	186.9	186.8	-89.42	-89.42	-530.0	-6,531.6	811.6	438.0	373.62	2.172	
13,700.0	7,064.3	13,711.6	7,055.9	189.7	189.6	-89.41	-89.41	-530.0	-6,631.6	811.6	432.4	379.21	2.140	
13,800.0	7,064.2	13,811.6	7,055.7	192.5	192.4	-89.40	-89.40	-530.0	-6,731.6	811.6	426.8	384.80	2.109	
13,900.0	7,064.2	13,911.6	7,055.5	195.3	195.2	-89.39	-89.39	-530.0	-6,831.6	811.6	421.2	390.40	2.079	
14,000.0	7,064.1	14,011.6	7,055.3	198.1	198.0	-89.38	-89.38	-530.0	-6,931.6	811.6	415.6	395.99	2.050	
14,100.0	7,064.0	14,111.6	7,055.1	200.9	200.8	-89.37	-89.37	-530.0	-7,031.6	811.6	410.0	401.59	2.021	
14,130.4	7,064.0	14,142.0	7,055.0	201.7	201.7	-89.37	-89.37	-530.0	-7,062.0	811.6	408.3	403.29	2.013	
14,157.0	7,064.0	14,163.3	7,055.0	202.5	202.3	-89.36	-89.36	-530.0	-7,083.3	811.6	407.0	404.63	2.006 SF	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-314 - Wellbore #1 - Plan #3 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	180.00	180.00	-91.1	0.0	91.1	91.1	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	180.00	180.00	-91.1	0.0	91.1	90.8	0.23	401.191	
200.0	200.0	201.0	201.0	0.3	0.3	180.00	180.00	-91.1	0.0	91.1	90.4	0.68	134.619	
300.0	300.0	301.0	301.0	0.6	0.6	180.00	180.00	-91.1	0.0	91.1	89.9	1.13	80.879	
400.0	400.0	401.0	401.0	0.8	0.8	180.00	180.00	-91.1	0.0	91.1	89.5	1.58	57.804	
500.0	500.0	501.0	501.0	1.0	1.0	180.00	180.00	-91.1	0.0	91.1	89.1	2.03	44.973	
600.0	600.0	601.0	601.0	1.2	1.2	180.00	180.00	-91.1	0.0	91.1	88.6	2.47	36.803	
700.0	700.0	701.0	701.0	1.5	1.5	180.00	180.00	-91.1	0.0	91.1	88.2	2.92	31.146	
800.0	800.0	801.0	801.0	1.7	1.7	180.00	180.00	-91.1	0.0	91.1	87.7	3.37	26.996	
900.0	900.0	901.0	901.0	1.9	1.9	180.00	180.00	-91.1	0.0	91.1	87.3	3.82	23.821	
966.3	966.3	967.3	967.3	2.1	2.1	180.00	180.00	-91.1	0.0	91.1	87.0	4.12	22.098 CC	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	180.00	180.00	-91.1	0.0	91.1	86.8	4.27	21.328 ES	
1,100.0	1,100.0	1,098.1	1,098.0	2.4	2.3	133.02	133.02	-92.6	0.7	93.8	89.2	4.69	20.025 SF	
1,200.0	1,199.8	1,194.7	1,194.5	2.6	2.5	133.85	133.85	-97.1	2.6	102.1	97.0	5.08	20.085	
1,300.0	1,299.5	1,290.4	1,289.9	2.8	2.7	134.97	134.97	-104.6	5.9	115.8	110.3	5.49	21.082	
1,400.0	1,398.8	1,385.0	1,383.9	3.0	2.9	136.02	136.02	-114.8	10.3	134.2	128.3	5.92	22.669	
1,500.0	1,498.2	1,478.5	1,476.3	3.3	3.1	136.34	136.34	-127.6	15.9	155.6	149.2	6.36	24.447	
1,600.0	1,597.6	1,573.8	1,570.1	3.6	3.4	136.19	136.19	-143.1	22.7	179.3	172.4	6.83	26.262	
1,700.0	1,696.9	1,670.9	1,665.6	3.8	3.7	136.03	136.03	-159.0	29.6	203.2	195.9	7.30	27.850	
1,800.0	1,796.3	1,768.0	1,761.1	4.1	4.0	135.91	135.91	-175.0	36.6	227.1	219.3	7.78	29.205	
1,900.0	1,895.7	1,865.1	1,856.6	4.4	4.3	135.81	135.81	-191.0	43.6	251.0	242.7	8.26	30.372	
2,000.0	1,995.0	1,962.2	1,952.1	4.7	4.7	135.73	135.73	-206.9	50.5	274.9	266.2	8.76	31.372	
2,100.0	2,094.4	2,059.3	2,047.7	4.9	5.0	135.66	135.66	-222.9	57.5	298.8	289.6	9.27	32.250	
2,200.0	2,193.8	2,156.4	2,143.2	5.2	5.4	135.60	135.60	-238.9	64.5	322.8	313.0	9.78	33.017	
2,300.0	2,293.2	2,253.5	2,238.7	5.5	5.8	135.55	135.55	-254.8	71.4	346.7	336.4	10.29	33.693	
2,400.0	2,392.5	2,350.6	2,334.2	5.8	6.1	135.51	135.51	-270.8	78.4	370.6	359.8	10.81	34.292	
2,500.0	2,491.9	2,447.6	2,429.7	6.1	6.5	135.47	135.47	-286.8	85.4	394.5	383.2	11.33	34.826	
2,600.0	2,591.3	2,544.7	2,525.3	6.4	6.9	135.44	135.44	-302.7	92.3	418.4	406.6	11.85	35.303	
2,700.0	2,690.6	2,641.8	2,620.8	6.7	7.3	135.40	135.40	-318.7	99.3	442.4	430.0	12.38	35.733	
2,800.0	2,790.0	2,738.9	2,716.3	7.0	7.6	135.38	135.38	-334.7	106.3	466.3	453.4	12.91	36.122	
2,900.0	2,889.4	2,836.0	2,811.8	7.3	8.0	135.35	135.35	-350.7	113.2	490.2	476.8	13.44	36.474	
3,000.0	2,988.7	2,933.1	2,907.3	7.6	8.4	135.33	135.33	-366.6	120.2	514.1	500.2	13.97	36.795	
3,100.0	3,088.1	3,030.2	3,002.9	7.9	8.8	135.31	135.31	-382.6	127.2	538.0	523.5	14.51	37.088	
3,200.0	3,187.5	3,127.3	3,098.4	8.2	9.2	135.29	135.29	-398.6	134.1	562.0	546.9	15.04	37.357	
3,300.0	3,286.8	3,224.4	3,193.9	8.5	9.6	135.27	135.27	-414.5	141.1	585.9	570.3	15.58	37.604	
3,400.0	3,386.2	3,321.5	3,289.4	8.8	10.0	135.26	135.26	-430.5	148.1	609.8	593.7	16.12	37.832	
3,500.0	3,485.6	3,418.6	3,385.0	9.1	10.4	135.24	135.24	-446.5	155.0	633.7	617.1	16.66	38.043	
3,600.0	3,585.0	3,515.7	3,480.5	9.4	10.8	135.23	135.23	-462.4	162.0	657.6	640.4	17.20	38.238	
3,700.0	3,684.3	3,612.8	3,576.0	9.7	11.1	135.22	135.22	-478.4	169.0	681.6	663.8	17.74	38.420	
3,800.0	3,783.7	3,709.9	3,671.5	10.0	11.5	135.21	135.21	-494.4	175.9	705.5	687.2	18.28	38.589	
3,900.0	3,883.1	3,807.0	3,767.0	10.3	11.9	135.20	135.20	-510.3	182.9	729.4	710.6	18.82	38.747	
4,000.0	3,982.4	3,904.1	3,862.6	10.6	12.3	135.19	135.19	-526.3	189.9	753.3	734.0	19.37	38.895	
4,100.0	4,081.8	4,001.2	3,958.1	10.9	12.7	135.18	135.18	-542.3	196.9	777.3	757.3	19.91	39.034	
4,200.0	4,181.2	4,098.3	4,053.6	11.2	13.1	135.17	135.17	-558.3	203.8	801.2	780.7	20.46	39.164	
4,300.0	4,280.5	4,195.4	4,149.1	11.5	13.5	135.16	135.16	-574.2	210.8	825.1	804.1	21.00	39.286	
4,400.0	4,379.9	4,292.5	4,244.6	11.8	13.9	135.15	135.15	-590.2	217.8	849.0	827.5	21.55	39.401	
4,500.0	4,479.3	4,389.6	4,340.2	12.1	14.3	135.14	135.14	-606.2	224.7	872.9	850.8	22.09	39.510	
4,600.0	4,578.6	4,486.7	4,435.7	12.4	14.7	135.14	135.14	-622.1	231.7	896.9	874.2	22.64	39.613	
4,700.0	4,678.0	4,583.8	4,531.2	12.7	15.1	135.13	135.13	-638.1	238.7	920.8	897.6	23.19	39.710	
4,800.0	4,777.6	4,681.1	4,627.0	12.9	15.5	135.13	135.13	-654.1	245.6	943.5	919.8	23.75	39.721	
4,900.0	4,877.4	4,779.0	4,723.2	13.1	15.9	135.14	135.14	-670.2	252.7	963.8	939.6	24.25	39.740	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-314 - Wellbore #1 - Plan #3 (12-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.0	4,977.3	4,877.2	4,819.8	13.3	16.3	135.33	-686.4	259.7	981.7	957.0	24.72	39.716		
5,100.0	5,077.3	4,975.5	4,916.6	13.4	16.7	-177.77	-702.5	266.8	998.0	969.7	28.30	35.262		

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Offset Design Tarin 32X-HZ Pad Sec.32-T4N-R66W - Tarin 32Y-404 - Wellbore #1 - Plan #2 (7-15-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	180.00	180.00	-120.2	0.0	120.2	120.2	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	180.00	180.00	-120.2	0.0	120.2	120.0	0.23	529.590	
200.0	200.0	201.0	201.0	0.3	0.3	180.00	180.00	-120.2	0.0	120.2	119.5	0.68	177.703	
300.0	300.0	301.0	301.0	0.6	0.6	180.00	180.00	-120.2	0.0	120.2	119.1	1.13	106.764	
400.0	400.0	401.0	401.0	0.8	0.8	180.00	180.00	-120.2	0.0	120.2	118.6	1.58	76.303	
466.3	466.3	467.3	467.3	0.9	0.9	180.00	180.00	-120.2	0.0	120.2	118.4	1.87	64.161 CC	
500.0	500.0	500.0	500.0	1.0	1.0	180.00	180.00	-120.2	0.0	120.2	118.2	2.02	59.434 ES	
600.0	600.0	597.1	597.1	1.2	1.2	179.73	179.73	-121.8	0.6	121.8	119.4	2.44	49.909	
700.0	700.0	693.1	693.0	1.5	1.4	178.97	178.97	-126.3	2.3	126.6	123.7	2.85	44.457	
800.0	800.0	788.6	788.1	1.7	1.6	177.83	177.83	-133.8	5.1	134.5	131.3	3.27	41.161	
900.0	900.0	883.5	882.4	1.9	1.8	176.45	176.45	-144.2	8.9	145.7	142.0	3.70	39.333	
1,000.0	1,000.0	978.7	976.5	2.1	2.1	174.96	174.96	-157.5	13.9	160.0	155.9	4.16	38.467	
1,100.0	1,100.0	1,077.3	1,073.9	2.4	2.4	126.49	126.49	-172.2	19.4	176.4	171.8	4.59	38.417 SF	
1,200.0	1,199.8	1,175.6	1,170.9	2.6	2.7	126.27	126.27	-186.8	24.8	194.8	189.8	5.04	38.676	
1,300.0	1,299.5	1,273.5	1,267.5	2.8	3.1	126.77	126.77	-201.3	30.2	215.3	209.8	5.49	39.200	
1,400.0	1,398.8	1,370.9	1,363.8	3.0	3.4	127.86	127.86	-215.8	35.6	237.3	231.3	5.96	39.795	
1,500.0	1,498.2	1,468.4	1,460.0	3.3	3.8	128.84	128.84	-230.2	41.0	259.4	252.9	6.44	40.249	
1,600.0	1,597.6	1,565.8	1,556.2	3.6	4.1	129.67	129.67	-244.7	46.4	281.5	274.6	6.94	40.590	
1,700.0	1,696.9	1,663.2	1,652.4	3.8	4.5	130.38	130.38	-259.2	51.8	303.7	296.3	7.43	40.860	
1,800.0	1,796.3	1,760.7	1,748.6	4.1	4.8	130.99	130.99	-273.7	57.2	326.0	318.0	7.94	41.070	
1,900.0	1,895.7	1,858.1	1,844.8	4.4	5.2	131.53	131.53	-288.1	62.6	348.2	339.8	8.44	41.237	
2,000.0	1,995.0	1,955.6	1,941.0	4.7	5.5	131.99	131.99	-302.6	67.9	370.5	361.6	8.96	41.369	
2,100.0	2,094.4	2,053.0	2,037.2	4.9	5.9	132.41	132.41	-317.1	73.3	392.9	383.4	9.47	41.476	
2,200.0	2,193.8	2,150.4	2,133.4	5.2	6.3	132.78	132.78	-331.5	78.7	415.2	405.2	9.99	41.563	
2,300.0	2,293.2	2,247.9	2,229.6	5.5	6.6	133.12	133.12	-346.0	84.1	437.5	427.0	10.51	41.633	
2,400.0	2,392.5	2,345.3	2,325.8	5.8	7.0	133.42	133.42	-360.5	89.5	459.9	448.9	11.03	41.691	
2,500.0	2,491.9	2,442.8	2,422.0	6.1	7.4	133.69	133.69	-374.9	94.9	482.3	470.7	11.56	41.738	
2,600.0	2,591.3	2,540.2	2,518.3	6.4	7.7	133.94	133.94	-389.4	100.3	504.7	492.6	12.08	41.777	
2,700.0	2,690.6	2,637.6	2,614.5	6.7	8.1	134.17	134.17	-403.9	105.7	527.1	514.5	12.61	41.809	
2,800.0	2,790.0	2,735.1	2,710.7	7.0	8.5	134.38	134.38	-418.4	111.1	549.5	536.3	13.13	41.836	
2,900.0	2,889.4	2,832.5	2,806.9	7.3	8.8	134.57	134.57	-432.8	116.5	571.9	558.2	13.66	41.858	
3,000.0	2,988.7	2,930.0	2,903.1	7.6	9.2	134.75	134.75	-447.3	121.9	594.3	580.1	14.19	41.876	
3,100.0	3,088.1	3,027.4	2,999.3	7.9	9.6	134.91	134.91	-461.8	127.2	616.7	602.0	14.72	41.891	
3,200.0	3,187.5	3,124.8	3,095.5	8.2	9.9	135.07	135.07	-476.2	132.6	639.1	623.9	15.25	41.903	
3,300.0	3,286.8	3,222.3	3,191.7	8.5	10.3	135.21	135.21	-490.7	138.0	661.6	645.8	15.78	41.913	
3,400.0	3,386.2	3,319.7	3,287.9	8.8	10.7	135.34	135.34	-505.2	143.4	684.0	667.7	16.32	41.921	
3,500.0	3,485.6	3,417.2	3,384.1	9.1	11.0	135.47	135.47	-519.6	148.8	706.4	689.6	16.85	41.927	
3,600.0	3,585.0	3,514.6	3,480.3	9.4	11.4	135.59	135.59	-534.1	154.2	728.9	711.5	17.38	41.932	
3,700.0	3,684.3	3,612.0	3,576.5	9.7	11.8	135.70	135.70	-548.6	159.6	751.3	733.4	17.92	41.936	
3,800.0	3,783.7	3,709.5	3,672.8	10.0	12.2	135.80	135.80	-563.1	165.0	773.7	755.3	18.45	41.939	
3,900.0	3,883.1	3,806.9	3,769.0	10.3	12.5	135.90	135.90	-577.5	170.4	796.2	777.2	18.98	41.941	
4,000.0	3,982.4	3,904.4	3,865.2	10.6	12.9	135.99	135.99	-592.0	175.8	818.6	799.1	19.52	41.942	
4,100.0	4,081.8	4,001.8	3,961.4	10.9	13.3	136.08	136.08	-606.5	181.2	841.1	821.0	20.05	41.942	
4,200.0	4,181.2	4,099.2	4,057.6	11.2	13.6	136.16	136.16	-620.9	186.5	863.5	842.9	20.59	41.942	
4,300.0	4,280.5	4,196.7	4,153.8	11.5	14.0	136.24	136.24	-635.4	191.9	886.0	864.9	21.12	41.942	
4,400.0	4,379.9	4,294.1	4,250.0	11.8	14.4	136.32	136.32	-649.9	197.3	908.4	886.8	21.66	41.941	
4,500.0	4,479.3	4,391.6	4,346.2	12.1	14.7	136.39	136.39	-664.3	202.7	930.9	908.7	22.20	41.939	
4,600.0	4,578.6	4,489.0	4,442.4	12.4	15.1	136.46	136.46	-678.8	208.1	953.3	930.6	22.73	41.938	
4,700.0	4,678.0	4,586.4	4,538.6	12.7	15.5	136.52	136.52	-693.3	213.5	975.8	952.5	23.27	41.936	
4,800.0	4,777.6	4,684.1	4,635.1	12.9	15.9	136.81	136.81	-707.8	218.9	997.0	973.2	23.83	41.847	

Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
Project:	SEC.32-T4N-R66W	TVD Reference:	WELL @ 4790.0ft (RKB - 15')
Reference Site:	Tarin 32X-HZ Pad Sec.32-T4N-R66W	MD Reference:	WELL @ 4790.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Tarin 32X-204	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (12-18-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4790.0ft (RKB - 15')

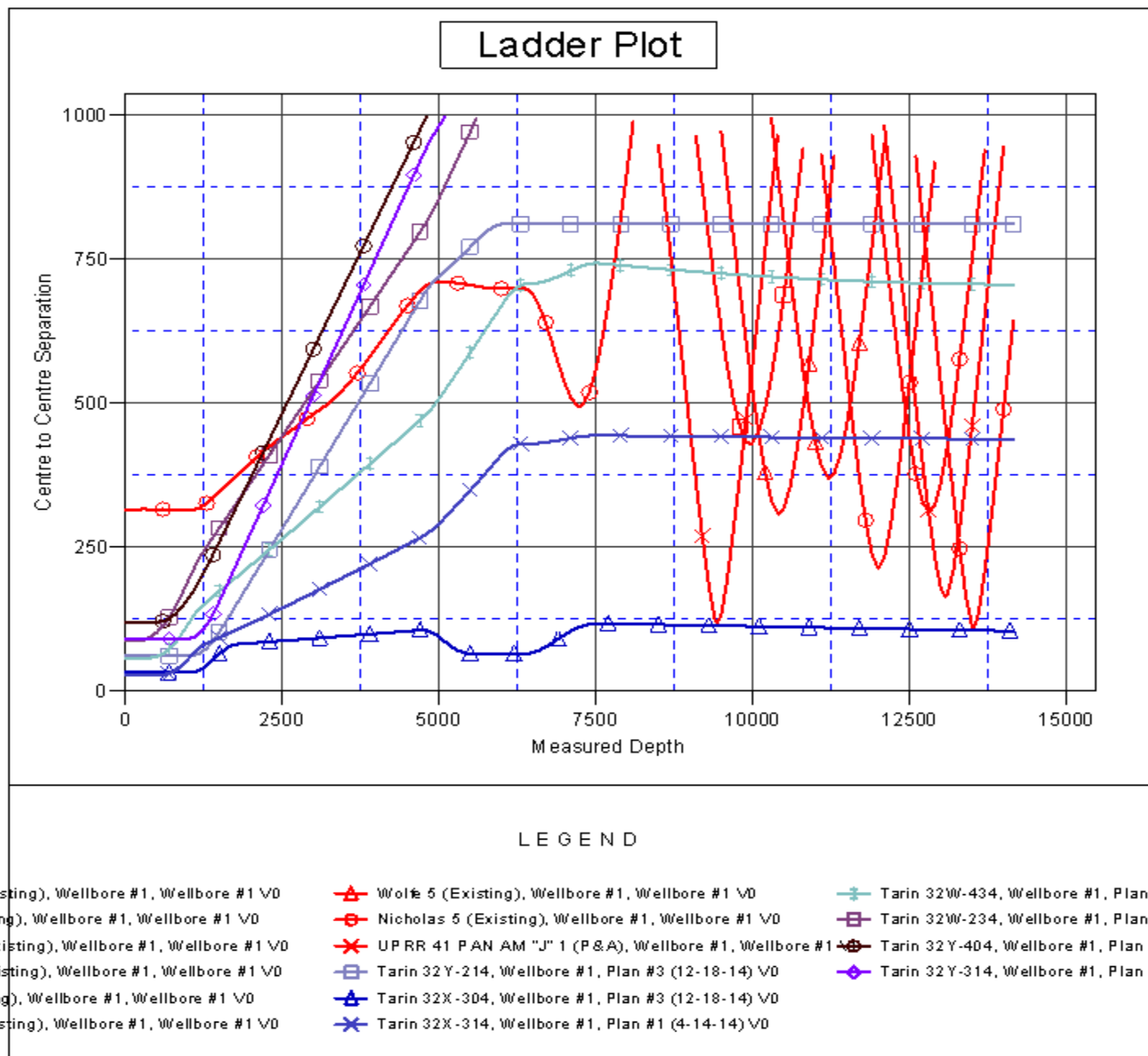
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

Coordinates are relative to: Tarin 32X-204

Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.46°



Company:	PETROLEUM DEVELOPMENT CORP Weld County CO	Local Co-ordinate Reference:	Well Tarin 32X-204
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